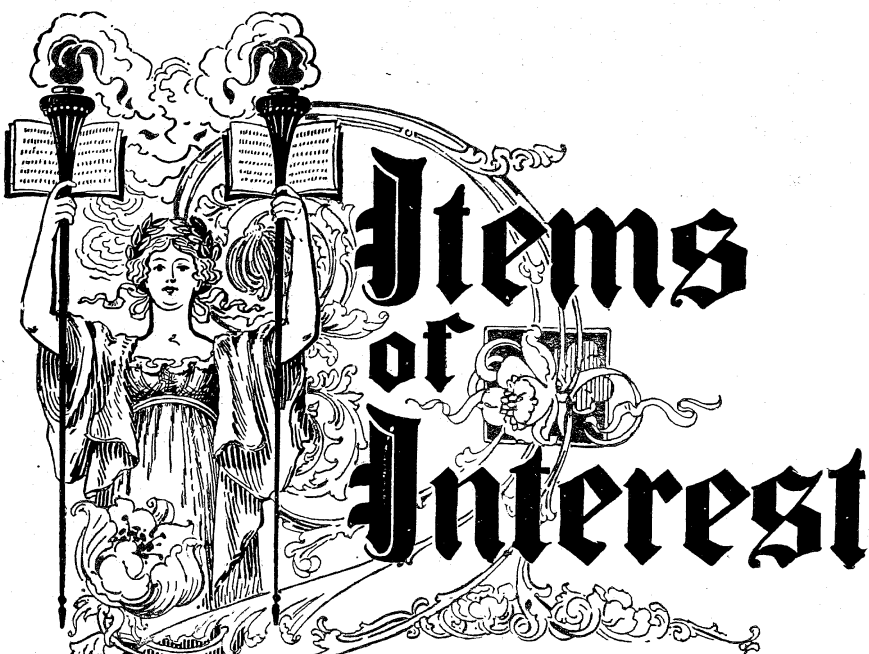


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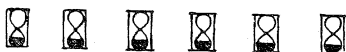
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Some Names Linked with Dentistry.

By JOHN BETHUNE STEIN, M.D.

Professor of Physiology and Histology, New York College of Dentistry.

Professor of Physiology, Veterinary Department, New York University.

The history of dentistry is sufficiently well known. What is purposed is to call fully to memory the names of some scientists, most of whom were neither dental nor medical practitioners, who helped in no small way to place the science of dentistry in its present formidable position, for which the so-called *practical man* (because he has derived the benefit therefrom) takes the credit.

Their memory is inscribed on the monument erected by their works. They did not attempt to confine their activities to dental structures alone, but carefully inventoried many scientific questions and preserved facts which are much to us to-day.

The books of these writers may now disappoint, to some extent, the inexperienced person; their inconsistencies and mistakes may not appeal to one who does not give the time to reading, study or investigation, though after a considerate perusal of them anyone imbued with some tincture of a desire to learn of the past of his profession can not regret having read the works. As one studies the subject of dentistry the demand for them becomes greater. We may note how many deficiencies have been supplied and errors corrected since they were written, and we

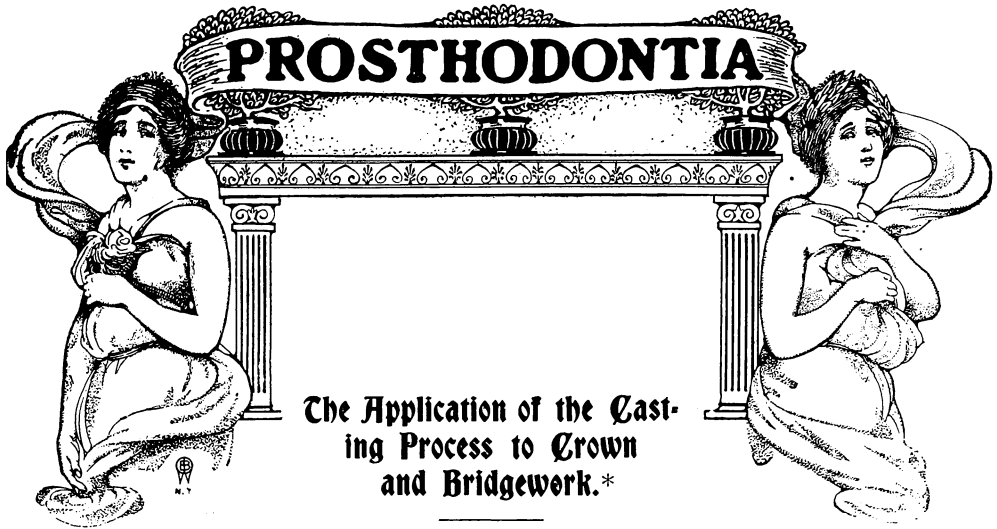
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to-day can readily understand how men with so numerous vocations—and by many thought more serious—could dedicate so much time and labor to this task. Their equipment (for their time) for scientific work and the brilliancy of their achievements are remarkable, considering the circumstances in which each of them labored.

Their legacy to us is of no small value or consequence; they and others like them left us the science which we are striving to develop to-day.

They knew nature as a whole (so far as they were able), and then studied her in detail, and though the time betwixt them and us, in many places, is very great, yet their accomplishments are still audible, their writings are known and studied by every scientist, and their names are in every mouth:

Malpighi	Heusinger	Goodsir
Leeuwenhoek	F. Cuvier	Nasmyth
J. Hunter	E. Rousseau	Gerber
Herissant	Arnold	Owen
Blake	Frankel	Erdl
Tenon	Raschkow	Bruch
Schreger	Agazziz	Ray Lankester
Isenflamm	Leydig	Zalesky
Rosenmüller	Huxley	F. Boll
M. Pflüger	Lent	Heitzmann
Muhlreiter	Purkinje	Peter the Great
Inzani	Hanover	Johann Wolfgang von Goethe
Wenzel	Welcker	Waldeyer
Lessing	Kölliker	Kehrer
Tomes	Robin	E. Dursy
Krukenberg	Magitot	Kollmann
Marcusen	E. Neumann	Hoppe-Seyler
Hassell	Beigel	Johannes Müller
Czermak	H. Hertz	Morton
Todd	Hohl	Lieberkühn
Bowman	Horace Wells	Schwann
Miller	Retzius	Von Bibra
Serres	Henle	



By HART J. GOSLEE, B.S., D.D.S., Chicago, Illinois.

A typical illustration of the possibilities of the casting process as applied to crown and bridgework, and embracing *esthetic* features, combined with a degree of accuracy of adaptation with a maximum of strength and a minimum display of metal, together with the indisputable and incalculable advantages to be obtained by the use of detachable or replaceable porcelain crowns and facings in a manner heretofore and otherwise impossible, at least to a degree which puts previous efforts to shame, is evidenced in the following more or less extensive and interesting case.

The two views of the casts designated as Fig. 472 show the case as it presented, and illustrate a very unusual degree of under-development of the dental arches and teeth, in the mouth of a young lady, eighteen years of age, who was otherwise perfectly developed.

The temporary molars on each side and in both arches had been retained, occupying the space of the bicuspid which had never erupted; no lower lateral incisors, nor any of the second or third molars in either arch had made their appearance, and the crowns of the sixth-year molars, cuspids and incisors, which had erupted, were malformed and dwarfed to such an extent that their occlusion brought the lower jaw into such close proximity with the nose as to completely destroy all of the lines which give harmony and expression to the lower third of the face.

As may be expected, this condition resulted in a degree of disfigurement such as is usually observed in the edentulous mouth of old age, but such as would be embarrassing even to middle age, must less to youth and beauty.

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In studying the case with a view to ascertaining the best means of bringing about such changes as the restoration of the features of the face demanded, it seemed, at first, necessary to resort to orthodontia, and to so change the position of the roots of the teeth as to permanently modify or relieve the disfigurement.

A series of skiagraphs showed the roots of these teeth to be abnormally large and well-developed and gave no evidence of the hidden presence of any of the missing teeth, not even the third molars.

Several consultations with prominent orthodontists, and a careful study of reconstructed models, measurements, etc., together with the age

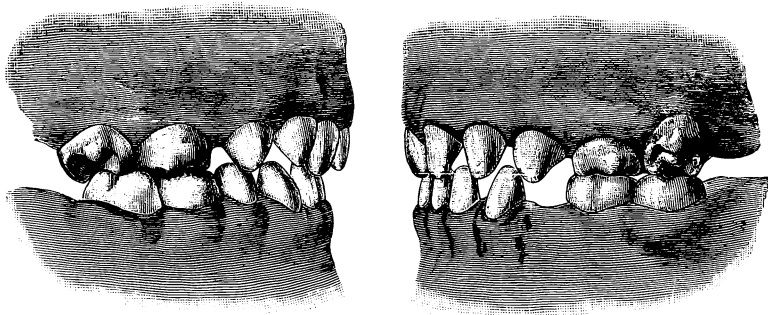


FIG. 472.

of the patient and the anxiety to have something done in the shortest possible space of time finally led to an abandonment of the idea of regulating, and to the conclusion that the best results were to be obtained by removing the temporary molars, which were somewhat loose and more or less decayed, opening the bite to the required distance by lengthening the sixth-year molars, and replacing the temporary molars and all of the dwarfed crowns of the incisors and cuspids with artificial ones of proper prominence and proportionate size.

In accomplishing this the temporary molars were, of course, first removed. The "bite" was then opened to the required extent, which was a full half inch, by elongating the upper right sixth-year molar with a cast gold crown to a length corresponding with the desired length of the upper incisors, and then building up the lower molar with an inlay made to occlude with this and to sustain the new closure at the desired point. These two pieces, opened the bite to a degree demanded by the desired restoration of the features of the face, and sustained this closure during the construction of all of the work.

A full crown was used on the upper molar, and an inlay on the

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lower only because each seemed best adapted to the respective tooth. Booth teeth were devitalized, however, and the inlay carried a good-sized dowel extending well down into the pulp-chamber.

As soon as these were completed, the same procedure was followed on the opposite side of the mouth, and when the four pieces were finished they were temporarily placed in position on the supporting teeth, and impressions taken in plaster, after a bite in wax had been obtained. Casts were then made and mounted upon the articulator.

These casts were used only for the purpose of selecting detachable porcelain crowns of suitable size and shape to fill the space and to meet the esthetic requirements—a very important procedure where a definite space is to be filled, and, after cutting off the plaster teeth, these were selected in pairs, or with a duplicate for each.

By this means the position of the right upper cuspid crown in its relation to the supporting root was correctly ascertained, and the natural crown was then excised, the basal end of the root suitably prepared, and the porcelain crown ground and otherwise adapted to the proper adjustment in the mouth, in which procedure the duplicate crown on the model may be used as a guide, and will materially facilitate accuracy.

A disc of 36-gauge pure gold was then burnished to the root, the dowel adjusted, and soldered thereto, and the base then molded in wax, and cast, as previously described. The use of the disc of pure gold facilitates the molding of the wax base to crown, root and dowel, and insures a close adaptation to the end of the root, and, if the crown has been ground to a close joint with the labial, or buccal, surface of the root, the display of any metal at this point in the finished crown is eliminated.

When the base had been cast, this crown was then finished up to the point of cementing the porcelain to the base. Both the base and porcelain crown were then placed in position on the root, together with the gold crown for the molar, an impression taken in plaster, and the cast made of investment material.

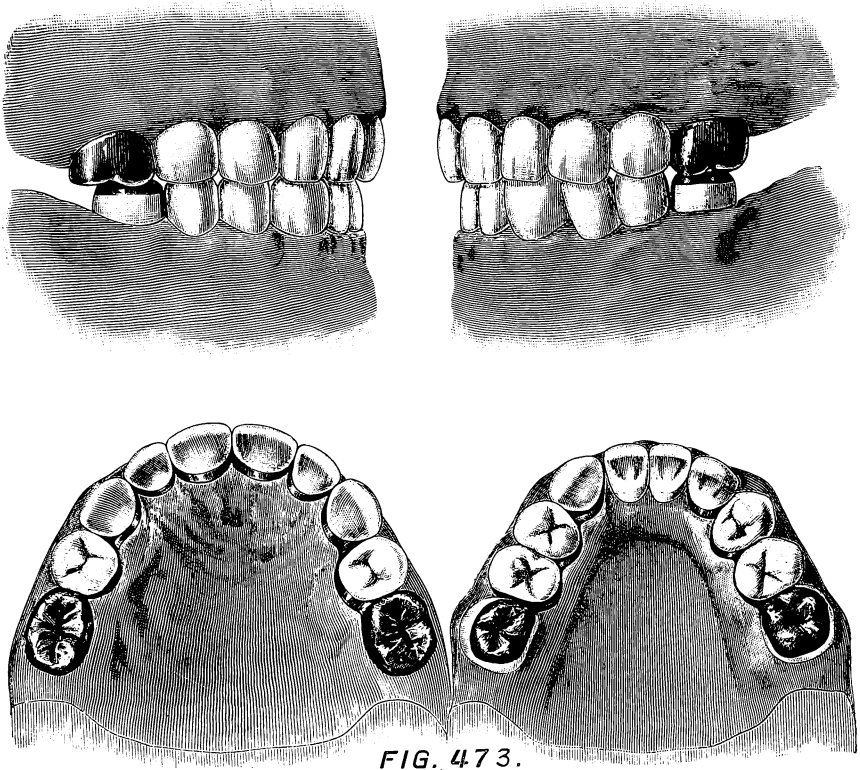
The bicuspid dummy which was to take the place of the temporary molars removed, the space having been diminished in consequence of the size of the cuspid crown, was then ground to the proper adjustment on this model, a wax backing made for it, and the casting then made. After casting the backing, it was finished and assembled directly on this model by sustaining its position with hard wax, removing the two porcelain crowns, adding a small quantity of investment material sufficient only to hold the parts together, and soldering.

When this piece, comprising the molar crown, the cuspid crown and the intervening bicuspid dummy, was roughly finished, the *duplicate* porcelain crowns were then ground to *fit* their respective backings, after

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which they were numbered "one" and "two" with ink, and then laid aside. The original crowns were now cemented to place and the piece finished and polished.

The lower bridge on this same side, which carried two bicuspid dummies, each backed separately, was then made in identically the same



manner, and constructed to occlude properly with the upper one. When these were completed, the final mounting was deferred until the two bridges on the opposite side had been completed, and these were built in exactly the same manner, and made with the finished bridges for the opposite side temporarily in position, in order to conform to the same occlusion.

When the four bridges were completed they were all permanently mounted at the same sitting, thus establishing the new closure of the mandible with the resultant stress assumed by teeth on both sides of the

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arch, thereby avoiding the soreness and discomfiture which might be caused by throwing the stress upon only a few teeth at first.

With the four bridges permanently mounted, the four upper incisor crowns were then made, following the same technique, but making the two laterals first, and then the centrals, in order that the proper division of the space may be observed, and in each case grinding and numbering the duplicates before cementing the original crowns to place on their respective bases.

When these were finished and mounted, porcelain jacket crowns were then made for the lower central incisors. These were made in preference to dowel crowns, for the reason that the shape and size of these teeth seemed more favorable to the adjustment of a telescoping instead of a dowel crown.

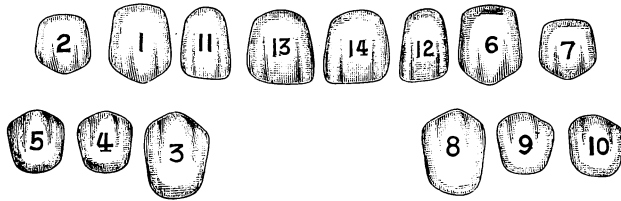


FIG. 474.

In this connection it will be observed that no effort was made to supply lower lateral incisors, it being previously determined by measurement that central incisors and cuspids of a size suitable to fill the space would be more proportionate than if the size of these teeth had been sufficiently reduced to make accommodation for four incisors. In other words, two teeth of proportionate size would look better than four small ones.

The results obtained, as illustrated in Fig. 473, wrought a most wonderful improvement in the features of the patient, and when this consideration is combined with the fact that absolutely no gold was visible anywhere anterior to the sixth-year molars, and that the patient carries with her a duplicate crown for every tooth (Fig. 474), excepting the two jacket crowns on the lower incisors, numbered also on a record chart which is given to the patient, so that any dentist anywhere may readily and easily take care of her in case of accident or emergency, it is apparent that such results approach closely to the *ideal*, and indicate and emphasize the possibilities of modern methods.

The object of placing a number on each duplicate tooth, and also giving the patient a chart similarly numbered, is to enable any dentist



to whom the patient might be obliged to apply in an emergency, to be able to identify the duplicate for the one that may have been broken. Thus the duplicates in the above case were numbered in the order in which the originals were used, and these numbered duplicates were given to the patient. A regular chart, such as is commonly used in dental account books, was then numbered similarly, and also given to the patient. Thus any dentist called upon to replace, let us say the left upper cuspid, by consulting the chart would note that such tooth was numbered "6," and he would then use duplicate number "6" in making the repair.

This method of giving the patient accurately numbered duplicates, and a similarly numbered chart, is quite advantageous where many teeth are placed in one mouth, for it must be remembered that there are four cuspids and eight bicuspid, which, in many instances, might be mistaken the one for another. Even molars are not always positively recognizable.

Fixed Removable Bridges.

By DR. J. C. CORCORAN, St. Paul, Minn.

In describing "fixed removable bridges," I take for granted that members of the profession, who do more or less dental restoration in the form of bridgework, will welcome and appreciate a sectional attachment that possesses all the necessary essential qualities and becomes a component part of the crowns of the anchored teeth.

I have done bridgework from its adoption by the profession to the present day, and have experienced such failures and hardships as only inexperience can bring, keeping faith in it, though many protested it would not withstand the stress of mastication or the test of time. Later I saw those who were most sceptical become ardent supporters, eagerly taking advantage of each perfected improvement and striving to make this work the greater part of their practice.

This fixed removable bridge is not a new system. It is new only in its sectional crown attachments for the anchored teeth. As heretofore, the intermediate teeth are supplied to the best advantage in each case, according to the judgment of the operator. It gives special prominence to all modern methods; in the use of porcelain teeth, porcelain crowns, interchangeable facings, the casting of base or framework, etc. Large bridges are not perfect without it.

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Many patients obtaining a bridge have, or are given, the impression that it is a permanent fixture. That it will last and be of service as long as their mortal spirits remain. This erroneous idea makes disappointment all the more bitter if failure comes. It has been my experience, and I think the experience of all dentists, to be called upon to repair bridges, and under such circumstances I have wished, and I think the profession has also wished, for fixed removable bridges.

The saddle bridge, bridges united with bar, or the extension of bridges with or without saddles beyond the anchored teeth, are all treacherous as fixed bridges, even though adaptations be ever so perfect. Should the adjacent tissue become irritated or swollen from any cause, it would be impossible to reduce it without removing the pressure, which means great loss if the bridge is cemented in. In such cases the advantage of a bridge that can be removed is obvious.

Small versus Large Bridges.

The idea that several small bridges in the mouth are better than one large one is erroneous. The only advantage in small bridges, when they might have been incorporated into one large one, is that in the case of accident the loss or chances of ruining them in removing is not so great.

Large bridges have the advantage of holding the roots of the teeth firmly, equalizes the stress of mastication, prevents lateral movement, and reduces the loss of teeth from these causes, and the loosening or changing of positions to a minimum.

The causes which indicate or necessitate the removal of a bridge, if we wish to save it or the anchored teeth before they are ultimately lost, are so many that they can not be all enumerated here; the most common are: Breakage of some portion of the bridge; the loosening of the teeth from various causes, such as overwork; improper occlusion; lateral movement; pyorrhea, etc. All of which may be benefited or entirely overcome by proper treatment and increased anchorage.

Sectional Crowns.

Under those conditions the sectional crown is of vital importance. It is natural to suppose that both dentist and patient would readily consent to the necessary labor of removing, repairing, or increasing the size of the bridge if it could be easily done without hardship to the patient or injury to the bridge or anchored teeth. Bridges are rarely, if ever, the same after having been torn off, and the teeth that have become weakened from supporting bridges or other causes are not benefited from the labor, leverage and stress necessary to remove strong crowns, bands

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and dowels. If drilling is required to remove the latter the teeth suffer all the more.

These sectional crowns can be applied to any piece of bridgework;

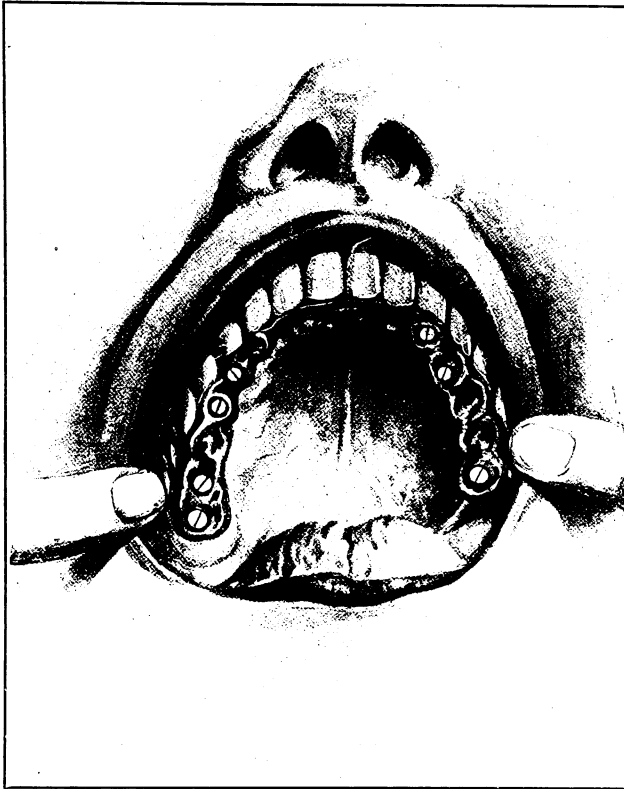


FIG. 1.

full gold, gold with porcelain facings, full porcelain, or any other, even to vulcanite, and where space will permit, the most ideal results can be obtained from a cast base or framework, using porcelain teeth or crowns for those to be supplied. The sectional crowns become the crowns of the anchor teeth, and, unlike any other attachments, do not interfere in any way with the proper position of the teeth to be inserted, and may be used on teeth standing at any angle.

There is no doubt that bridges anchored on firm, healthy teeth will last for years even under unfavorable conditions or improper construction. Patients are satisfied and loudly praise the work. Herein lies a secret in

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dentistry. Often people live a long time without knowing they are not receiving all that can be done for them.

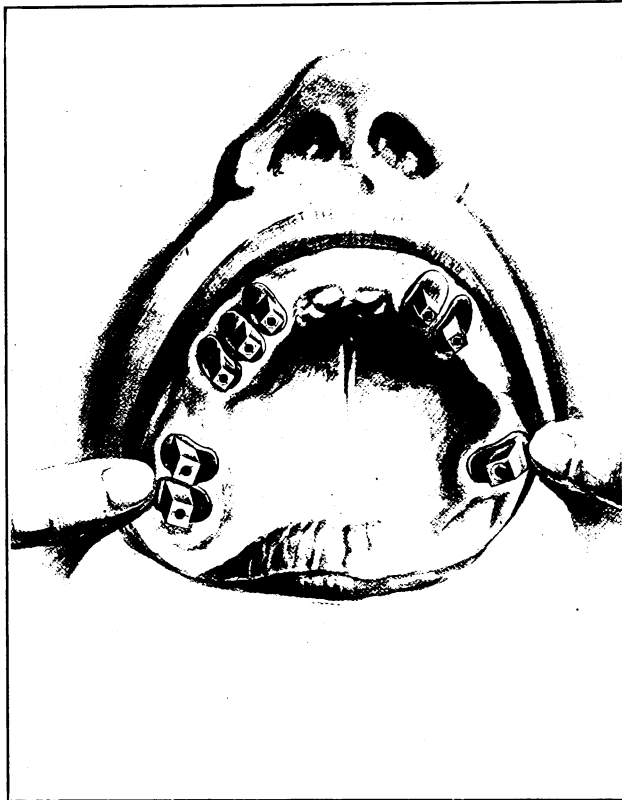


FIG. 2.

Advantages.

Besides large or full restorations there are numerous cases where it is specially advantageous; cases where conditions suggests the future increasing or changing of bridges; bridges extending on both sides from the third molars to the first bicuspid or cuspids, upper or lower; in such cases length of service will be increased twofold if united and held firmly together with a bar. In restoring the upper bicuspid in mouths where the teeth are long, unshapely and over-conspicuous, and where there has been considerable loss of tissue through extraction and subsequent absorption, they can not be cosmetically restored by using facings or crowns, but perfect results may be had, preserving in line the length of the teeth

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and gum margins, by making a porcelain bridge. Considering the artistic effect to be had, the risk is not great when the bridge can be removed.

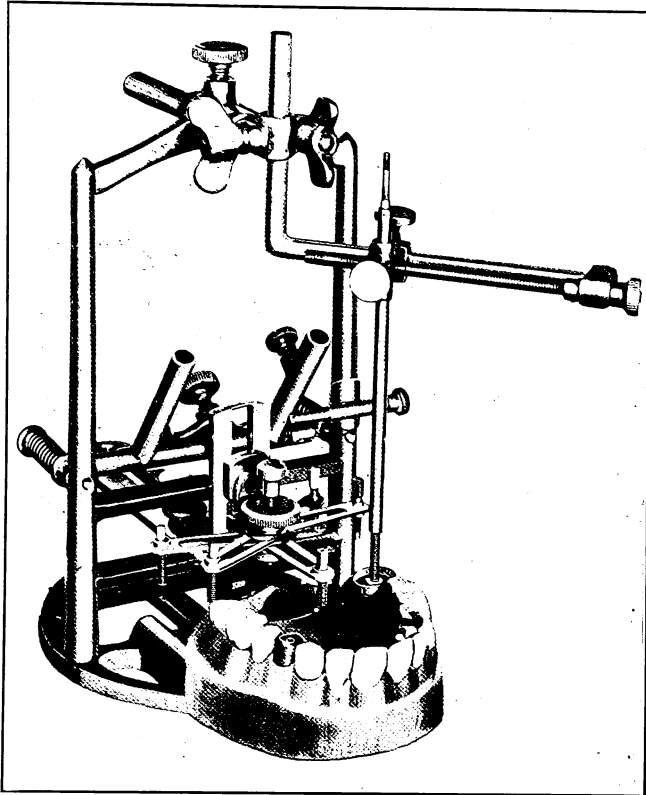


FIG. 3.

A better idea can be had of the construction of this work from the following illustrations: Figures 1 and 2 are reproductions of a practical case shown in clinic before the National Dental Association at the 1907 meeting.

This work with the sectional crown attachments is simple, and can be done by any one accustomed to doing bridgework, or who has made a gold or Richmond crown. There are two vital points: First, the preparation and fitting of the bands for the anchor teeth; second, the making and paralleling of the anchor crowns. The remaining portion of the bridge may be completed in any form suggested.

As may be seen from the illustrations, the anterior teeth are reduced

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to, or slightly beneath, the gum margins, the same as in the preparation for any porcelain crown with band. The band, which is a recognized essential in bridgework, is fitted and united with dowel in the usual way, the bevel of the bands to be on the same angle and slightly beneath the gum margin.

The posterior teeth must be reduced two-thirds of their length, which necessitates devitalization of pulps. Without discussing the advisability of this, I think it is advantageous in getting a better fit and adaptation of bands, and with the teeth so reduced there is every possible opportunity for the proper treatment and filling of root canals. In reducing a tooth two-thirds it would bring it almost to the mesio-distal margins of the gum, but not to the bucco-lingual; this would leave the top of tooth about level, which is correct where it is possible, but where teeth are inclined and can not be made level there are attachments of special bevel for such cases. In the posterior anchor teeth I have not found the use of dowels necessary. A band of sufficient width to cover the remaining third of the tooth and extend under the gum margin seems sufficient, except in cases of very short or close bites; then dowels may become a necessity.

Fig. 2 shows, in position in the mouth, the first section of the sectional attachment soldered to the bands used for the anchor teeth. The first section consists of gold plate, 29 gauge, which forms the top of bands and supports a square lug, carrying screw-threaded lugs extending outwardly into the artificial cap or second section of the crown, where there is a corresponding square aperture. These fit one into the other as tightly as a machine can draw them and still be removable.

In the occlusal surface of the artificial caps, or crowns, is the opening or countersink for the screws, of sufficient depth to free them from the occlusion. Countersink and screw-heads are made of the same size, and when firmly put in place are secretion tight, and, consequently, sanitary; if not, the fault lies in the technique and not the system. Fig. 3 shows an upper case under course of construction in inversed position on articulator; the placing and paralleling of the sectional crowns may be noted. The question of strength, rigidity, and firmness does not enter at all. The square lugs are made from clasp metal, set on firm bases and are amply strong to withstand any stress that may come upon them. There is no strain upon the screw; they simply hold the bridge in place.

Fig. 1 shows in the mouth the finished product, which is full soldered, with porcelain facings, except the three posterior teeth. At present casting might be preferable.

In presenting this work for the consideration of the profession, I feel that they will believe with me that when properly constructed it is an ideal solution of the most difficult problem of bridgework.



President's Address.

By F. M. CASTO, D.D.S., Cleveland, O.

Read before the American Society of Orthodontists, at Cleveland, 1909.

Let me assure you, my dear friends, it is with very great pleasure that I call to order the ninth annual meeting of the American Society of Orthodontists. The distinguished honor you have bestowed upon us by accepting an invitation to meet in our fair city is most highly appreciated. I trust this meeting will be as productive of good as have been our previous meetings. They have not only been productive of good from the standpoint of the scientific papers presented, but from the sociability of the members as well. For what gives one more pleasure and imbues one with more enthusiasm in his work than to grasp the loyal hands of his old American Society friends and discuss with them the successes and failures in their respective practices? I believe that things of practical benefit do now and will hereafter emanate from the men actively engaged in the practice of orthodontia, and who are capable of the successful application of new and practical theories. There certainly have been many theories advocated in the past that were of no practical benefit, and no doubt most of us have suffered more or less by attempting to follow them. I think, however, the time has come when we will not be so gullible.

In view of the fact that there seems to exist in the minds of many of the profession a misapprehension regarding the objects and practices of the American Society of Orthodontists, and the further fact that many



of its members are not conversant with the early history of the society, I feel it opportune to give a brief account of the organization. Upon the first page of the secretary's book there is written the following:

**History of
the Organization of
the Society.**

"In November, 1899, Dr. Edward H. Angle discussed with Henry E. Lindas, Thomas B. Mercer, Herbert A. Pullen and Milton T. Watson, who were in St. Louis taking lectures under him, the need for a society whose chief aim should be the advancement of orthodontia. The subject was earnestly discussed, but the time seemed not yet ripe to organize.

"The following spring, or in June, 1900, while celebrating the close of the first session of the Angle School of Orthodontia, with a banquet tendered its teachers by the students, the subject of a society of orthodontists was again discussed, and Dr. Richard Summa moved the formation of a temporary organization. Edward H. Angle was elected president and Milton T. Watson, secretary. The president appointed F. W. Rafter, Thomas B. Mercer and F. C. Kemple a committee to adopt a constitution and by-laws. By unanimous consent it was arranged to hold the first annual meeting in St. Louis, Mo., in June, 1901. The result of these efforts is already a matter of record."

The first meeting was held in St. Louis, June 11, 12 and 13, 1901. Those present were Drs. E. H. Angle, Richard Summa, M. T. Watson, W. J. Brady, E. E. Walker, H. E. Lindas, Grafton Munroe and L. S. Lourie. Resolutions and by-laws were presented and adopted. The following officers were elected: E. H. Angle, president; W. J. Brady, vice-president; M. T. Watson, secretary and treasurer; Richard Summa, H. E. Lindas and W. E. Walker, Board of Censors. Several papers of importance were presented. This meeting then was the formal launching of the good old ship, the American Society of Orthodontists, a society that has been making history and doing a remarkable work, and which is destined to be responsible for a very large proportion of the future scientific developments in orthodontia.

The following year the meeting was held in Philadelphia, October 8, 9 and 10. The good work continued. Some very valuable contributions were given. Several new members were admitted. The enthusiasm displayed at this meeting proved beyond a doubt that the American Society had come to stay. The other meetings have been held in Buffalo, St. Louis, Chicago, New York, Detroit and Washington, respectively.

The custom of holding the meetings in a different city each year has been a most beneficial one. It has given the members an opportunity to visit the various large cities, besides enabling the Board of Censors to secure material for the program, which would, otherwise, have been dif-

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ficult or impossible to get. It has also afforded an opportunity for the general practitioners and other persons interested in orthodontia in the various sections of the country to attend the meetings. I hope this custom will continue until all the large cities shall have been visited.

The society has steadily grown in power and membership until now it has one or more representatives in practically every large American city and in some European cities. The active membership consists of men exclusively engaged in the practice of orthodontia and teachers of orthodontia in recognized dental schools. Any person or persons are eligible to membership who comply with those conditions and who are willing to conform to and abide by the constitution and by-laws. However, quality rather than quantity has been considered in enrolling members. I desire to state further that the society has always extended to those interested in orthodontia a cordial invitation to attend any or all of its sessions, and have always encouraged free thought and speech. Article II of the constitution reads: "The object of this society shall be the advancement of orthodontia and the establishment of the science as a distinct dental specialty." I am certain that the members have complied with this section in the broadest sense and have without the slightest hesitancy always encouraged the unfolding of knowledge in orthodontia to all persons interested.

One of the most delightful things about the society is the friendly feelings existing between its members, and their willingness to impart knowledge to each other and to the profession in general. Nothing has been of more practical benefit to myself than the privilege of visiting other men's offices and learning how they do things. I am sure this condition of affairs should always exist and the members, individually and collectively, will be held responsible to see that it does. The closer the relationship between its members the more powerful will be the society, and the stronger the society the greater the good that can be done.

Progress Past and Future.	We must all agree that the progress in orthodontia has been marvelous in the last decade of years; order has been brought out of chaos and the successful practice of orthodontia has been estab-
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lished. Yet it is reasonable to suppose that just as much or more advancement will take place in the next decade. There is at present more original research work being done, and the practical application of methods is immeasurably greater. A great many theories have been found useless and have been abandoned. Many things that floated in on the tidal wave have exploded and sunk. Men have come to realize that it is not possible to dogmatically practice orthodontia according to any particular rule or method, the requirements in many cases being so varied that constant

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study and thought are necessary. The field for study has increased so rapidly that there has not been sufficient time nor opportunity for complete development in any one particular branch. I fear that in our great anxiety to develop something new, many of the old and more important things have been neglected. We could profitably devote the time of an entire session at one of our meetings to the study of retention. This is undoubtedly one of the most important subjects in orthodontia. We stand or fall upon our ability to retain the teeth in their corrected position. Considerable time must yet be spent in the study of diagnosis, early treatment and a number of other subjects equally as important.

Influence upon the Nervous System.

The question has been raised by some medical men regarding the effect that an orthodontic operation might have upon the nervous system of a patient. I have heard of a few cases where it was thought that the operation produced more or less severe nervous troubles. There was not sufficient evidence produced, however, to hold the orthodontic treatment entirely responsible. I do not believe that an operation carefully and properly performed will produce any nervous disturbance; the work is always under control and may be discontinued at once should there be any reason to do so. On the contrary, I believe that the correction of irregular and crowded teeth will relieve many cases of nerve strain. The investigations of Dr. Upson, of Cleveland, to my mind, confirm that belief. He claims that a lesion may exist which will be sufficient to cause insanity by cell degeneration in the brain without any evidence of pain on the part of the individual affected. Dr. Upson has proved that some forms of insanity are caused by dental lesions, such as impacted and pulpless abscessed teeth.

If it be true that insanity is sometimes caused by the impaction of one or two third molars, why would not a greater nerve strain be produced where all the teeth are irregular and crowded into narrow contracted arches? The establishment of normal occlusion should prevent the impaction of teeth. Some specific investigation of this subject would undoubtedly be of considerable interest and benefit and should be made. It will be necessary for the orthodontists to correct any wrong impressions that may exist in the minds of the medical profession regarding the orthodontic operations.

The Problem of Fees.

Another question that should concern the orthodontists is the fee to be charged the patients. In the search for scientific knowledge the business side of our work must not be overlooked entirely. A custom established for many years, and followed by a number of orthodontists, has been to name a definite fee at the outset for the complete operation. I

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am not sure that this method will in the future always be conducive of the best efforts on the part of the orthodontist and prove most satisfactory to the patient. We all appreciate that it is very difficult to determine the exact extent of services to be rendered in a given case of malocclusion. I believe suggestions upon the questions of fees would be gladly received by the members of this society.

Education of the General Practitioner.

There is one other thing which seems to me to be of importance, and that is the establishment of a definite method for educating the profession in orthodontia, and educating the laity in the care of children. Certainly the profession has access to all the dental literature, the privilege of attending the orthodontia meetings and to come in almost daily contact with the orthodontists. There is little provision whereby the laity may become acquainted with the needs of their children.

In talking with a prominent surgeon of this city some time ago he informed me that at one of the surgical meetings a number of the men formulated a plan whereby an article of interest and benefit to the public would be published at various times upon various subjects; they were of the opinion that considerable good to the people would result from such a plan. I do not know whether any such thing would be feasible or not, nor have I any plan to suggest, but it is certain that if the mothers knew what and how to feed their children, how to give their teeth and mouth the proper attention, and the necessity of doing these things, a great many malocclusions would be prevented, and we all agree that the highest aim in orthodontia is the prevention of irregularities of the teeth.

In conclusion, I wish to call your attention to the fact that the achievement in other professions have kept pace with the wonderful advancement in orthodontia. In medicine, the serum-therapy treatment and the vaccine treatment are being thoroughly exploited. In surgery, the transfusion of blood and the probable cure for cancer are distinct advancements. The casting of gold for various uses marks an important epoch in dentistry, and the "solgram," or sun process for producing a photograph in nature's own colors, promises much in photography. The four-day boat across the Atlantic has become a reality. Wireless telegraphy and telephony have been made practical. New records in almost every line of human endeavor have been made. The sun's rays have almost been bridled, and last, but not least, the North Pole has been discovered.

The society is to be congratulated upon having such an excellent program as arranged by the Board of Censors. I wish to thank them



personally for their splendid work. I desire also to thank the members of the society again for coming to Cleveland this year. I hope that you will all go home wiser and better men for the coming.

Discussion of President's Address.

Dr. Ottolengui. I wish to allude to two or three points introduced by Dr. Casto. First, as to the subject of retention.

I think that when we make a contract to correct a case of malocclusion, the patient has a legal and moral right to expect that we will retain whatever we obtain in the way of improvement. Many of us receive our fees when we put on the retainers; a few do not, and, it seems to me, if we do, we are likely to lose a financial if not a professional interest the case, because all fees have been paid; and yet, of what advantage is the work to the patient if a retrogression occurs subsequently? We are not giving as much attention to the matter of retention as we should. If we go back to not so very many years ago, the correction of malocclusion was in a very chaotic stage, considered from the standpoint of the diversity of appliances. Do we not have as much individuality exercised in retention? The president is quite right in suggesting that a great deal more study and attention should be given to this problem. If some of the men have solved it, it should be their duty to the society to come and explain these facts to us. I should like to see two whole sessions devoted to the retention of Class Two and to Class Three cases at our next meeting. I think the Class One cases have been fairly well worked out, except infra-occlusion, and that occurs in all three classes.

**The Aims of
Orthodontia.**

In regard to the question of the influence of these operations on the nervous system of the child, and the statement made by the president that the highest aim of orthodontia should be to prevent malocclusion, I agree that it is a high aim, but do not think it is the highest aim. Formerly, the correction of irregularities was more especially a cosmetic operation; it was born of the desire to make the child pretty. We give too much thought to the restoration of the teeth to the proper arch alignment. I think it is quite as important to restore a normal occlusal plane as to restore a normal arch alignment. I am beginning to be a believer in the beneficent influence of proper mastication, as announced by Mr. Fletcher. If you masticate your food thoroughly you will need less of it to maintain the vital energies of the body, and thus prolong life and enable the individual to more readily throw off the attacks of the various so-called germ diseases. The child's malocclusion should be corrected, not to make it pretty, but so that it will not need an appendicitis operation;

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so that it will be more immune to various diseases. A normally vital human being is immune to the majority of diseases.

How can one properly masticate food if he has not a proper masticating apparatus? The arrangement of the occlusal plane is more important than the alignment of one or two of the front teeth. The incisors are for incising food, and one may cut bread with incisors rotated as well as with them straight, but with narrow arches one can not possibly masticate food properly.

I look forward with interest to the paper announced on the program by Dr. Waugh. In addition to the help we have had from Dr. Hawley in establishing the curve of the arch, we should have an anatomical articulator, to which we can attach our casts and study the various excursions of the mandible and see to what extent the vertical development of the teeth are at fault. Establish normal occlusal planes first, and, secondly, normal arch alignments, to contribute to the health and beauty of the child. If thoroughly scientific and capable, we could render every child healthy by our services.

Dr. Ketcham. I was much impressed with the president's address, and the discussion by Dr. Ottolengui. I am very glad, indeed, Dr. Ottolengui spoke of Mr. Horace Fletcher's teachings, and that he referred in that connection to the advantage of an ideal relation of the occlusal planes of the teeth. For years I have fought against an impaired physical condition, and have tried Fletcherizing in a rather indifferent way. However, I find it to be a great thing, and believe that in making it possible for our patients to attain the greatest efficiency in the use of their teeth we are rendering the highest service. It naturally follows that if the inclined planes of the teeth are in ideal occlusal relations we will have the curve of the arch in ideal relation to the face and will have an ideal development of the face and the greatest degree of nasal development, and that we will do that child the greatest amount of good that is possible. The question of retaining this ideal condition after it is once acquired, troubles us more than anything else. It is only by working together that we can solve this problem.

Dr. Pullen. I have not in mind the principal points of the paper, but its general tone was certainly in the line of progress, and speaking along the line of the previous gentlemen I will say that the Board of Censors selected Dr. Waugh to give us his paper on the laws of articulation for the reason that we wanted to make a special study of the occlusion and antagonizing planes. You will find they have much to do with the physical and pathological development of the child.

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One topic in the president's address that appealed to me, and which has not been discussed, is his reference to fees for services rendered. Having been a close student of the work of this body ever since its organization, I recall that you have taken action on that phase of the fee question relating to the paying of commissions, which action I heartily indorse. It has always seemed to me that the practice of charging a fixed fee, of contracting our services in advance of treatment, militates against the best results in orthodontia.

In the "Golden Rules of Surgery," by the late Dr. Bernays, we read: "Surgical services have no fixed value; they are invaluable." May not the same be said of orthodontic services? And while surgical operations frequently involve the life of the patient and are of very short duration, the major part of the necessary after treatment is usually intrusted to a nurse or assistant. This has led surgeons to favor a definite financial agreement with the patient, in advance of the operation. Our treatment, on the other hand, extends over a long period of time, in which respect it is more like medical practice. Moreover, fully 90 per cent. of our services are rendered for the correction of anomalies of position of the teeth, only occasionally for anomalies of form, of number, etc. Now the essentials of a differential diagnosis of the anomalies of position are simply stated as follows: Malocclusion of the teeth, malrelation of the dental arches, and malformation of the jaws. In many of our cases we find a combination of these three conditions, and we are proud to define orthodontia so broadly as to include prevention as well as cure.

The continued growth of the appreciation of orthodontia is materially affecting our practice, and parents are aware of the value of early treatment. At this moment I have in mind a patient eight and one-half years old, with the most pronounced type of distal occlusion I have ever dealt with. The bilateral distal malrelation of the lower, as a result of arrested development of the mandible, is very evident, though I have succeeded in establishing a normal occlusion of all of the permanent teeth thus far erupted (twelve in all) in the short period of four months. But my services do not end with the application of the retention appliance, nor with its probable removal a year or so hence. On the contrary, the one and only agreement that I have with his parents is, that I am to have the child in my care until the cuspids, bicuspid and second molars have erupted, when he will have reached his thirteenth year. Approximately five years of service; then how unreasonable the demand for a fixed fee in advance!

The point I wish thus to emphasize is, how can any one tell in advance the services even this one case will require, until it may be dismissed



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as cured, as permanently normal? I know very well the arguments in favor of a fixed fee plan, but again I say it is to the interests of all concerned never to adopt it, for it involves the distinction between jobbers of orthodontia and practitioners of a remedial art. I can conceive of an ideal state of society, in which parents would freely pay liberal fees for services such as we daily strive to render, but in the utilitarian age in which we live, in which good health and physical efficiency are grossly underestimated and but faintly comprehended, men are not so willing. Some form of system we are thus forced to adopt. Aside from the patient's ability to pay, the proper basis for every fee is the prompt (preferably monthly) settlement of all obligations for services rendered, and no more. And since there are no two cases exactly alike, there can be no two fees alike.

Finally, mention may be made of the child returning from a vacation, or from a prolonged illness, etc., during which time a retainer, or an appliance for treatment, might quite naturally become ineffective. And suppose that prior to such an unfortunate, though not frequent, incident the last installment of a fixed fee has been paid. Ought the extra services thus made necessary be rendered gratis? And is it not true that the fixed fee arrangement frequently leads to that most unjust demand of all medical service—the guarantee—the unprofessional nature of which I need not dwell upon?

In Germany they charge by the time taken for the operation. As Dr. Lischer says, one never knows what time will be needed on a case. The patient may become ill, and the work you have already done may be undone, wholly or in part. In England, the majority charge so much per hour for the work. I have occasionally charged a stated fee for a case, but it seems an unsatisfactory arrangement. I can quite recommend the time fee to you, but, of course, there is much difference in the speed with which a man works. One man will do four times a given amount of work in a stated time as another. The amount charged for an hour's work should differ with different men.

With reference to the point in the president's address relating to the fact that we are sometimes accused of causing nervous disorders. Are such disorders supposed to relate to the sensory and sympathetic, or to the motor nerves? I have been accused recently of causing paralysis. I would like a little light on this subject.

I had the opportunity for about three years to do a certain amount of orthodontia for which I received no fees and for the purpose of gaining knowl-

Mr. Hedley C. Visick,
London.

Dr. Burrill.

Dr. Federspiel.

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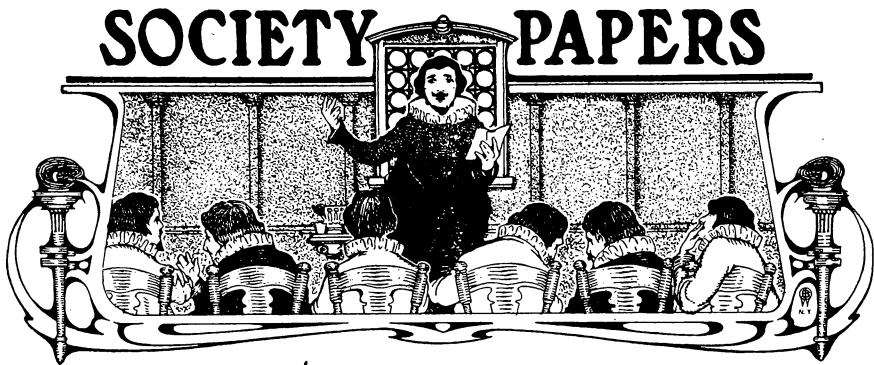
edge. I came in contact with some people who were very poor. In some cases the head of the family was earning probably nine or ten dollars per week.

I believe, however, that orthodontia is priceless. You have a right to charge a large fee and still you must be charitable. A surgeon informed me that he had a practice of \$25,000 per year and received only \$5000 in fees; the remaining \$20,000 was charity. If I charge \$5000 and the patient can afford to pay it, it is reasonable. If I treat the child of a poor scrubwoman, my services may be donated. The proportion of charity and charges must be based on the financial condition of the patient, or, rather, of the parents.

As you have called upon me, I will say that I was much pleased with the address of the president, and concur in what has been said. I feel that we could very profitably discuss some of these questions separately and at a special time during one of our future meetings, and hope they will be placed on the program as special papers or for discussion. Certainly the points brought out in the paper are valuable to us, and some have not been worked out as thoroughly as they should be, so I hope we may take them up individually and work them out more at length than we would be able to do in this discussion.

Dr. Bethel. Regarding the question of Dr. Burrill, of Chicago, with reference to alleged effects of orthodontic operations on the nervous system, I do not know what the specific claims are of those physicians who make complaints. A good many physicians, naturally, will blame orthodontic operations when they have nothing else to lay the trouble to, and it may afford an easy method of making a diagnosis. I think that subject should be given some specific consideration by this society, because such claims will militate against the work which is being done. Probably if all physicians were informed or educated in what orthodontia means to children, they would not be so likely to advise against it, or to attribute troubles arising during the operations to the operation itself, as they are liable to do now. It is a bit like the tendency a few years ago to attribute so many things to heredity.

President Easto. cago, with reference to alleged effects of orthodontic operations on the nervous system, I do not know what the specific claims are of those physicians who make complaints. A good many physicians, naturally, will blame orthodontic operations when they have nothing else to lay the trouble to, and it may afford an easy method of making a diagnosis. I think that subject should be given some specific consideration by this society, because such claims will militate against the work which is being done. Probably if all physicians were informed or educated in what orthodontia means to children, they would not be so likely to advise against it, or to attribute troubles arising during the operations to the operation itself, as they are liable to do now. It is a bit like the tendency a few years ago to attribute so many things to heredity.



| Some Important Features of Oral Bacteriology.

By DR. GEO. W. COOK, D.D.S., Chicago, Ill.

Read before the New Jersey State Dental Society, Asbury Park, July, 1909.

To discuss the subject of bacteriology of the oral cavity means but little except in the general way. Scores of bacteria make their appearances in the human mouth, from the very lowest to the higher forms of micro-organic life, and they have been described from time to time by investigators. The various forms of many of these organisms (which are also found in the lower forms of animal life, especially the domestic animal) are more or less transferable from the typical to the atypical, and vice versa.

If we were to attempt to write a historical sketch of bacteriology in general, we should find that the very earliest observations in bacteriological research were from the oral cavity. All through the investigations, from the time Leuwenhoek made the first observation that small organic life was present in the saliva, up to the present time, extended researches in bacteriology have lead investigators to make a search of the oral cavity, as an interesting field for bacteriological phenomena. We might say that from the latter part of the seventeenth century up to 1880 an extensive scientific work was done on putrefaction and fermentation; and the discussions that went on between the two great schools of Europe regarding these processes are of such historical importance to the world of science that the names Pasteur, Virchow, Bichat, and many others will ever be linked with the science of bacteriology. It was in 1857 that Pasteur established the truth, that all processes of fermentation and putrefaction were caused by unicellular living organisms, belonging principally to the lowest forms of vegetable life. From 1857 to 1880, when the

field of bacteriological research was explored by the most eminent men of the times, it was established that certain putrefactive and fermentative organisms might inhabit the human mouth.

When W. D. Miller entered the field of pathological research, he naturally took up that phase of bacteriological work belonging to the oral cavity, and by his painstaking scientific investigations he formulated what we recognize to-day as Miller's theory of dental caries. And whenever the causation of tooth decay is discussed, Miller's theory will ever be linked to the subject, in as intimate a relation with this disease process, as will Koch's name be identified with tuberculosis and its etiological phenomena.

While the work of Miller can never be erased from its intimate relation with the science of oral bacteriology, we should not be unmindful of many other names that have played an interesting rôle in the earlier researches, such as Babes, Baumgarten, Bennet, Bergmann, Vidder, Binz, Arkövy and Black. The last two men named in this list have added much to our thought and knowledge in the science of dental caries. Through all of this work which has been done—in the latter part of the last century by the investigators just named, and later by Kenneth Goadby—we have learned that the complexity of the phenomena of dental caries, as well as of many other diseases of the oral cavity, affords opportunity for much more to be done upon the subject of oral bacteriology.

With the great volume of scientific research

Influence of Oral Fluids. by the investigators we have just named, we have, to a degree, lost sight of the important rôle that the oral mucous membrane and the fluids of the mouth play in modifying the activity of those micro-organisms in their chemico-biological processes. The so-called practical side of dentistry is constantly introducing into the profession preventive agents for the destruction of bacteria and the preservation of the tissue of the oral cavity, entirely unmindful of the extremely important rôle that the tissue plays in its own preservation.

Infection. If we analyze the word infectious, we say that it is "the successful entrance of bacteria into the tissues of the body." There are many diseases, local and general, in which we can not establish an absolute identity of bacteria with the disease processes, because of certain rules that have been established for the absolute exciting causes of a disease. For instance, we find bacteria in the locality of the disease process (if local) in sufficient numbers that they may be taken and artificially cultivated. If they are then inoculated into susceptible animals the same organism should be

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recovered from the animal inoculated. When this rule is strictly applied, we have moderately few diseases in which the specific micro-organism has been identified as the true cause of disease. While the presence in the body of a particular species is of fundamental importance in the determination of a disease process, the number of organisms and the virulency of them are also of primary consequence. The varying capacity of resistance to the entrance of bacteria is said to be of the greatest importance in the truly infectious conditions of tissue. It should also be borne in mind, that the human body is a great aggregate of co-ordinated cell groups, which, under normal conditions, are in harmonious action, for the maintenance of the life processes of the individual. It must be remembered that all cells have the power, under normal circumstances, of resisting, and even of overcoming, deleterious agents that are constantly coming in contact with them.

Resistance to Infection.

We recognize that the number and virulency of the micro-organisms and the normal functional activity of the tissue cells are the two most important factors in the causation of any disease process in the animal body. We also value the maintenance of the resistance of the tissue cells, or groups of cells, to prevent harmful agents from entering or disturbing their normal functional activity. The study of opsonins, which was begun by Wright and Douglas, suggested by Leishman, was taken up for the purpose of rendering the body of the individual more capable of resisting the virulent powers of micro-organisms entering the tissues; in other words, they tried by introducing a protective agent into the tissues of the body to weaken the vitality of bacteria or other parasites. The opsonic substances may occur in the tissues of the body normally, or they may come from artificial immunization of the body of the animal. The so-called phagocytic action of the leucocytes is a phenomena that has been studied with considerable interest. It has also been shown that the leucocytes can not act upon all bacteria indiscriminately, because of the resistance of the bacteria themselves. But these opsonins render the bacteria more susceptible to the action of the leucocytes; thus we have the possibilities of lessening the vitality of the bacteria so that their resistance may be lowered to a point where the leucocytes can destroy their life process. The above experimental facts have been carried to a point where there is no question about the possibilities of there being an element of truth in these various phenomena.

Saliva.

The saliva of all animals, and especially that of man, is under the direct or indirect influence of the tissues of the glandular structure of the so-called

salivary glands. It has been repeatedly shown that the general metabolism of the body influences to a degree the secretions of these glandular bodies; and physiologists tell us that they are more or less influenced by nerve stimulation. We also know that, by certain nervous stimulation, the constituents of the saliva vary to a marked degree. Ludwig found that stimulating the chorda-tympani nerve causes a flow of saliva from the submaxillary gland. Under such circumstances the constituents of the saliva of these glands are materially changed. The normal mechanism of the salivary secretion is the result of reflex stimulation of the secretory nerve. The saliva, if examined under the microscope, will be found to contain a number of epithelial cells from the mucous membrane of the mouth, and also what is designated as salivary corpuscles. It has been thought by some that these so-called salivary corpuscles are degenerated white blood corpuscles. The true importance of such observation is not completely established; suffice it to say, however, that the salivary secretion is the result of certain metabolic changes that take place in the body in general, influenced more or less by general and local changes that take place in the entire organism or body of the individual. Therefore saliva belongs to the economy of all the functional activity of the body and is more or less under the influence of the cerebral nervous system, Its flow into the oral cavity has an essential influence, not only in the digestion of food material, but upon the mucous membrane, and must necessarily have an important influence on bacteria that naturally inhabit or become transitory inhabitants of the oral cavity.

It is a well-established fact that the diphtheritic bacterium, which is a transitory organism of the mouth, is materially changed in its functional activity while inhabiting the mouth. These organisms pass from an actively virulent germ to a non-virulent state and still remain in the oral cavity for an indefinite period. This fact attracted my attention some years ago, and in a number of cases of diphtheria I found that, after the injection of antitoxin, these organisms immediately began to lose their virulent properties when injected into susceptible animals. This demonstrated beyond any doubt in my mind that the tissues liberated into the salivary glands or the mucous membrane may oppose an anti-substance against the specific action of the diphtheritic bacillus. If this is true in the diphtheritic organism, might it not be true in influencing certain fermentative processes.

**Experiments
with Bacteria from
the Mouth.**

A number of organisms that are capable of breaking up carbohydrates into alcohols and acids have been isolated from the human mouth and decaying teeth. These phenomena are almost as variable as the constituents of the saliva from which they are

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taken. If these organisms are removed from one mouth and grown in bacterial free saliva taken from the mouths of other individuals, they have a decided influence in the production of new compounds. I isolated from decayed teeth the *staphylococcus albus*, which, when grown in one per cent. of grape-sugar bouillon, produced acid; on transferring that to bacterial free saliva, taken from a mouth free from caries, and kept in this saliva for ten days, transferring it each day into fresh tubes containing this saliva from the immune mouth, the organism was never capable of producing an acid reaction in a one per cent. grape-sugar bouillon. I might say, in passing, that the so-called immune saliva or the saliva from the immune mouth gave a reaction to potassium sulphocyanids, or, in other words, it contained, as near as we could estimate, a decided potassium sulphocyanid solution. The organism grew in the saliva, propagated itself apparently in a normal way, but lost its power of forming acid. We made up a 1 per cent. solution of asparagenic acid, and in 1000 c. c. we added 22/10 grams of potassium chlorid, $1\frac{1}{2}$ grams of sodium oxid, 1 gram of magnesium sulphate, 1 1/10 grams of potassium sulphocyanid, which is about the proportion that it existed in the saliva; the organism was transferred into this solution. We found that on the addition of grape-sugar to the solution it re-established its fermentative process with varying degrees of acidity in the solution, thus showing that the potassium sulphocyanid did not produce any effect on fermentation. When the same quantity of potassium sulphocyanid was added to the grape-sugar bouillon, we found that it did not play any part in the prevention of fermentation.

A number of bacteria from the mouth and from various other sources were treated in like manner, with the same results as above mentioned, varying somewhat with the organism and with the part that it logically plays in its natural habitat. In taking a large number of cultures from various mouths and growing them in their mixed condition, just as taken from the saliva, with various percentages of sulphocyanid, and ranging from 100 of 1 per cent. up to a point where the bacteria would not grow at all, we found that it had a varied degree of action on various organisms in the human saliva. The bacillus of pulp gangrene (Arkövy) has the greatest power of resistance to potassium sulphocyanid of any of the organisms that we tested, but so long as it grew it was capable of breaking up albuminous substance in practically its normal way, and of producing the chemical constituents that result from decomposition by bacteria of proteids.

**Streptococcus
Longus and Brevis.**

However, the principal conclusion reached in testing sulphocyanids on bacterial growth *in vitro* shows that sulphocyanid in anything like quantities found in the fluids of the body has but little, if any, influence on the physiology of bacterial life. There are some complex phenomena in the fluids of the oral cavity with bacterial fermentation that we are not able to explain. We very rarely see the *streptococcus longus* in the oral fluids for any great length of time. These chain forms are usually very short in comparison with their growth, artificially or otherwise produced. Mamorek has shown that the *streptococcus brevis*, which he claims is normally in the human mouth, seldom ever produces a suppurative condition. Kolle has shown that the *streptococcus* that grows in long chain forms can also be made to grow in the short chain condition, and that the short chains may not produce suppuration in animals, except when they are injected with the *coli bacillus*, when they at once take upon themselves an active suppurative manifestation. Dr. Drucek and myself isolated from the saliva the *streptococcus brevis* and tested this by inoculating the organism into rabbits and guinea pigs, with and without the *coli bacillus*, and in no instance could we produce the suppurative condition without the *coli bacillus*, except in a few instances; in one patient suffering from tuberculosis, in two from typhoid fever, and in four recovering from pneumonia. Every instance in which the *streptococcus* was isolated, the chain-form organism could not be considered purely the *brevis* form, and still was not of the long chain form that is found in suppurative conditions; but when inoculated into susceptible animals it produced suppuration, and eventually became the long chain form. The four cases recovering from the pneumonic condition had potassium sulphocyanid in the saliva, while the tubercular and the typhoid cases were free from the potassium sulphocyanid. These organisms isolated, as just mentioned, all produced an acid reaction in glucose bouillon. Many of the *streptococcus brevis* isolated from mouths, will produce an acid reaction in glucose bouillon, even though they are of the *brevis* variety.

**Influence of
Sulphocyanid of
Potassium.**

It would be interesting to record many more of the experiments that were carried on, but time and space will not permit. The saliva from the sublingual gland, beyond any doubt, contains more of the potassium sulphocyanid than comes from any other of the salivary glands; and the secretion from this source is more dependent upon certain psychic conditions that influence the flow and constituents of the sublingual glands than from any other glands of the mouth. However, the mucus from the mucous membrane, in some instances, furnishes the

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saliva with potassium sulphocyanid ; but many of the physiology chemists are inclined to the belief that the principal source of potassium sulphocyanid comes from the use of tobacco, such for instance, as smoking.

With the above observations, and with many other unrecorded facts, I am of the opinion that potassium sulphocyanid does not or can not influence the fermentative processes that take place in the oral cavity, but that it is one of the accompanying conditions that may be present in the mouths free from caries. But, on the other hand, the saliva and mucous membrane of the mouth have a profound influence on the bacteriological conditions that influence the actions of bacteria on tooth structure and the soft tissue of the mouth ; and this influence is due to the general metabolism of the body and other nervous influences that play such an important part in the flow and constituents of the saliva, as well as of the mucous secretions of the glandular structure of the mucous membrane. I have elsewhere shown that the use of certain chemical agents, as well as mechanical means, can influence the mucous membrane of the mouth in such a way that it has less resistance to the action of bacteria, and that this change takes place in certain forms of degeneration of the mucous epithelial structure. It is also apparent that the number and kinds of bacteria that are in the cavity have an influence on each other for or against certain fermentative processes. Experiments have repeatedly been made to show that oxygen as an element, introduced in cultures where fermentation is going on, changes the whole process. According to a great number of investigators, fermentation is a process of biology and can take place only in the absence of the oxygen of the air. With these factors in view anaerobiotic conditions are an important factor in the process. The bacteria that produce chemical and physical changes in the oral cavity must do so in the absence of the free oxygen of the air.

From my own observations I am forced to the conclusion that the saliva carries with it some agent of the opsonic nature that influences the virulency of the bacteria, and that it also carries with it an agent that influences the fermentative property of organisms in the oral cavity. While the general physical condition of the body is an important factor in influencing the functions of bacteria in the mouth, the use of agents as antiseptics and disinfectants, with the general mechanical treatment of the oral mucous membrane, is one of the most important factors in the prevention of diseases of the oral cavity.

Some Remarks on the Defects in Enamel of the Children of Colorado Springs.

By H. A. FYNN, D.D.S.

Read before the Colorado State Dental Association, July 13, 1909.

Dr. J. Leon Williams says, "Enamel is a solid mineral substance, and the finest lenses reveal not the slightest difference between enamel ground moist from a living tooth and that which has laid in the earth for a hundred centuries."

Starting with the premise that enamel is composed entirely of inorganic matter, principally phosphate and carbonate of calcium, and a small percentage of magnesium, and that chemically there is no difference between the enamel rods and the cementing substance which holds the rods together, it follows that any defect in the enamel must come from some interference in the deposition of the salts.

I have said there is no difference chemically between the enamel rods and the cementing substance which holds those rods, but physically and practically there is a difference. The cementing substance seems to be not so well crystallized, more liable to destruction through the action of the bacteria of decay and in other ways, showing considerable difference in structure. Dr. Black has shown that in those cases which we are considering it is the cementing substance that is defective, but I am unable to see that it makes any difference in these particular cases where the defect may lie, as it is a lack of lime constituents or a defect in their deposition. It comes from a discrepancy in the deposition of the lime, that is, the phosphate and carbonate of lime and other salts are not properly balanced to form perfect enamel.

This defect may come from two causes—faulty assimilation and metabolism in obtaining the material from the food, or it may be in the food itself which lacks a sufficient proportion of this inorganic material.

Enamel Defects of Local Origin. Eighty-seven and one-half per cent. of the children born and raised in this city have defects in the enamel. It is foolish to assume that this enormous percentage of children have faulty metabolism.

It is equally foolish to assume that these children are suffering from diseases of the skin, or otherwise, that would produce malnutrition; if malnutrition, directly or indirectly, exerts any influence in this peculiar condition.

If our premise still be sound, we have excluded faulty metabolism and malnutrition; it must follow, then, that the cause is in the lack of

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these calcium products in the food. This condition of the teeth is purely local, and the cause will be found in local conditions. It is not in the children, but in their environment. In Denver, a few miles north, or in Pueblo, a few miles south, it is not especially noticeable. I can think of but three articles of food that can be classed as local—water, milk, vegetables. I think we shall be compelled to eliminate water. Analysis shows it to be exceptionally pure and differing in no essential degree from the water of Denver, which is taken from the mountains, but a comparatively few miles distant. Victor obtains its water from practically the same source, and Dr. Catlett, who practiced there several years, noticed but five or six of these cases among the children of Victor, a ratio that might be found in any community. Besides, at Fountain, which lies close to Colorado Springs, where the water is obtained from an entirely different source, the same conditions prevail. Other food products, such as meats of all kinds, bread made from different grains, are not local products but are supplied from the same source as is Denver and Pueblo, and therefore must be excluded.

There remains two purely local products, milk and vegetables; and I am assuming that the cause of this trouble lies in the lack of calcium constituents in the grasses and vegetables grown in the vicinity of this city, because cows' milk is simply a by- or secondary product of grass, herbage and vegetables.

Etiology of Defective Enamel.

Physiologically, blood is the great carrier of all the different tissues of the body, obtaining these ingredients from food. In normal blood there is but little more than two parts in a thousand of calcium products, a seemingly very small proportion when we consider the large proportion of inorganic materials in the fully formed man or woman.

The permanent teeth, with the exception of the first molars, are formed after birth, and from this time up to about the twelfth year the enamel is forming on these teeth. Shortly before the temporary teeth begin to calcify, the osseous system commences to form, and during the entire time the enamel is growing there is a tremendous demand upon the blood for all the calcium it contains to ossify the skeleton.

If there be lack of lime in the food during this period, the teeth, rather than the bones, will suffer. The teeth are formed from the epiblastic layer of the blastoderm, being practically the only tissue of that great group demanding lime salts. The bones are formed from the mesoblastic layer, and the demand for lime is a hundredfold greater than is that from the epiblastic layer. It seems to be a law of nature that where there is greatest demand there will be the greatest supply. This being true, then the enamel will be the first to suffer. Precisely similar are two

stalks of corn growing from the same soil; one strong and vigorous, the other weak and sickly. The strong stalk demands the nourishment, and nature supplies it, though the penalty be the death of its weaker brother. Thus, if for any reason there be a lack of these organic compounds, it will manifest itself in defective enamel.

The principal food of the child directly after birth is milk; first the mother's, then cows' milk in some form usually, and this milk is very rich in lime, containing about $1\frac{1}{2}$ per cent. Then, as the child grows older and stronger, other foods are supplied—cereals, vegetables, etc. But I think it safe to say that up to ten years the principal food is milk and vegetables, purely local products. If there be a lack of lime in the soil tributary to Colorado Springs and in grasses which may be converted into milk, or if there be a lack of it in the vegetables, such as lettuce, spinach, tomatoes, asparagus, onions, all of which are normally especially rich in calcium, then, I believe, in these local products we have a solution of the trouble. And it is reasonable to suppose that there may be a lack of lime in these products. We all know that there is a vast difference in the products of soils in the same neighborhood. A change of a herd of cows from one pasture to another, in which there may be better food, will result in a loss of from one to three per cent in the proportion of butter fat, though the quantity of milk will remain the same.

The same difference is noticed in the sugar elements of sugar beets. Fields adjoining will differ two or three per cent. in those elements that go to make sugar. So I believe it reasonable to suppose that lime salts may be lacking in the soil in this vicinity, and the demands made by the skeleton exhausts the supply and robs the teeth of those constituents which go to make perfect enamel.

**Discoloration
of Enamel.**

In respect to the discoloration, I think this is more a result than a cause, the defects in the enamel offering special inducements to the blood to deposit more than the normal proportion of iron, which it always holds in solution, and which results in the disagreeable stain. I can hardly imagine this coloring matter affecting in any way the calcification of the enamel. If it did, there would surely be manifestations of it in other products of the epiderma, as in the hair, nails, etc. If we can secure the perfect calcification of the enamel rods and the cementing substance represented in hard, firm, normal enamel, then the discoloration problem will be solved; for this discoloration is by no means confined to Colorado Springs, but is found in other parts of the country, especially in regions where there are iron mines. In a letter from Dr. Lamb, of Port Henry, on Lake Champlain, in which are extensive iron deposits, he says: "The defects you ask about in children's teeth born

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here or in this vicinity, are similar to those you mention as existing in Colorado Springs, especially in children of American parentage. There is a large foreign element that labor here in the mines, mostly Italians, Polanders and Hungarians. In these I find hardly any stains, and the Hungarians are entirely free from it, so I conclude the parents must be more or less the cause of it. The native-born parents probably are more impregnated with the iron, consequently transmit it to the children. Across the lake from here in Vermont, which is a farming community, I find very little of these stains."

In conclusion, I want to emphasize that this is a local condition caused by local influences, and must be cured by local applications. It is *sui generis*, and conditions existing elsewhere will assist but little in its solution. It is no respecter of persons, for practically all the children are afflicted. In my judgment, it is not caused by malnutrition or any pathological conditions, but results from a lack of those elements in the local food supply which go to form perfect enamel.

In this connection Dr. Carl Rose, of Germany, who has given years to the study of foods and their relation to the teeth, says that "in proportion to the lime salts in the water and foodstuffs, particularly milk, which is one of the best vehicles for carrying lime, so are the teeth of the people immune to decay, other things being equal." If this be true, then, conversely, the lack of lime must be productive of decay or other defects in tooth structure. The remedy must lie in the removal of the cause. If it be a lack of lime, then this should be supplied by artificial means both to the mother and child during the formation and growth of the permanent teeth.

Some Important Facts Concerning Pyorrhea Alveolaris, Which Every Practitioner Should Know.

By R. G. HUTCHINSON, Jr., D.D.S.

Read before the Union Meeting of the Third and Fourth District Dental Societies.

The general attitude of the dental profession regarding the cure of pyorrhea is one of skepticism. This is due primarily to the fact that the great majority have been unsuccessful in its treatment. If the measure of success now being attained by a number of men had been common during the past quarter of a century, no such opinion would now prevail.

When men of acknowledged ability as operators failed in their efforts to cure pyorrhea by instrumentation, they naturally concluded that their

method was at fault, so far as effecting a complete cure was concerned, and that the true origin and cause of the so-called disease had not been discovered.

**Constitutional
Origin of Pyorrhea
Denied.**

Some of our scientists have conducted researches and have formulated theories alleging constitutional origin, which clinical experience has proved to be incorrect. They claim that although local treatment may restore health for the time to the affected tissues, pyorrhea still exists in the system and is therefore incurable and sure to recur. Such a theory is totally at variance with facts which have been repeatedly demonstrated clinically, and is the result of failure to thoroughly comprehend the actual condition existing in the mouth, together with lack of technical ability to perfectly perform the surgical operation which is essential, in order to effect a complete cure. The members of the profession at large, not having made a study of this subject personally, have depended on the findings of others, and seem to be unwilling to accept a theory which does not coincide with their preconceived idea of what should be found. Their attitude seems to be one in which they are looking, not for the truth so much, as to discover facts which will coincide with their belief. A number of men throughout the country have been compelled to abandon former beliefs on account of the results which they have repeatedly obtained through treatment surgically, and which do not coincide with the mere theories which have been formulated and which have taught us to believe that pyorrhea is of constitutional origin. It would be folly for any one to claim that constitutional conditions have no bearing on the local conditions, but it is a mistake to suppose that any local condition in the mouth is absolutely dependent on certain constitutional conditions for its existence, or that the elimination of the supposed constitutional condition is essential to the restoration of health to the local tissues. Such constitutional and local conditions are sometimes coincident, and many have assumed that because this is true, the local is the result of the constitutional condition.

The fact that local treatment, when properly carried out, effects a complete cure of the disease in the mouth, without recourse to any constitutional treatment whatsoever, and often in spite of well-defined constitutional disorders, and that there is no recurrence, is absolute proof that pyorrhea is a local condition and not dependent on constitutional conditions. Fairly thorough scaling will often apparently effect a cure under favorable constitutional conditions. Then, later on, if the resistance is lowered or local conditions have grown unfavorable again, there is recurrent inflammation, leading to the belief that the constitutional condition of the patient is alone responsible for the recurrence. This is not

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the case. Had the operation been perfect, no matter what changes may occur constitutionally, if the mouth is kept clean there will be no recurrence. This I have demonstrated conclusively in my practice.

Of course certain systemic conditions may exist which would make impossible a complete cure of pyorrhea, but only when such conditions would prevent the healing of any surgical wound. In the great majority of cases failure is the result of imperfect instrumentation.

Theories which can not be corroborated by demonstration of facts are misleading and absolutely worthless. Those of us who, through our clinical experience, have been compelled to change our belief concerning the etiology of pyorrhea, have formulated new theories as an explanation of demonstrated facts, rather than to attempt to make our facts conform with theories. We are often accused of being empirical, and the claim is made that our statements of belief are unreliable, because they are not based on what some men are pleased to call scientific investigation. In connection with this point, I wish to quote from an address by Algeron T. Bristow, M.D., delivered before the Brooklyn Institute of Arts and Sciences, in which he says,

“There is between sciences, whether physical or abstract, one common bond of union, namely, the fact that they all have for a foundation the mother of all sciences, the science of sciences—logic. Without correct methods of reasoning no science can exist. The very definition of the word ‘science’ is ‘knowledge gained and verified by observation and correct reasoning.’ The errors of the mind may be classed under two heads, either as errors of observation or erroneous deductions from faulty methods of reasoning. Thus, if our methods are illogical, our science ceases to be science. All the errors of the past are due to one or other of these causes, and for centuries man has been blundering onward from truth to error, and painfully back again to truth.”

It certainly is not logical to base our opinions on what some men have failed to do. But rather let us draw our conclusions from what has been accomplished. Constitutional resistance plays a very important part in the establishment of pyorrhea. If the opsonic index is high, without doubt favorable local conditions may exist without the establishment of pyorrhea. On the contrary, where the opsonic index is low and favorable local conditions exist we are sure to have pyorrhea. But we must remember that it is possible to establish an infection by reducing the local resistance of the tissues through some injury, and it is also possible to restore health and to maintain it without raising the opsonic index. Clinical observation has shown this to be a fact. If, by treating this condition as a local one we obtain the desired result, we must reach the

conclusion that our method is a logical one and failures are due, in the majority of cases, to some fault of technique.

There has already been too much discussion of the etiology of pyorrhea, the result being that most men have concluded that as the cause is constitutional and treatment locally only partially successful, with certain and early recurrence, it is only a waste of time and energy on the part of the operator, and of money on the part of the patient to undergo treatment. It is to correct this erroneous opinion that I am taking your time in a discussion of these points.

**Etiologic Causes
of Pyorrhea.**

Some writers refuse to regard as pyorrhea any inflammatory condition unless accompanied by constitutional symptoms of some kind. The name pyorrhea alveolaris is an unfortunate one, as it has led to so much confusion, but for lack of a better one and because the great majority have come to use it as applying to the disease of which I speak, I shall continue to do so. Whether or not this condition is pyorrhea alveolaris or something else I care not, as it is the condition and not the name that we are to consider and treat.

The fact is that thousands of teeth are lost that could be saved, and the constitutional health of the individuals is seriously impaired. Pyorrhea does not come spontaneously, but is the result of a long-continued condition culminating in suppuration, and we must, therefore, consider the whole series as mere stages in the existence of this disease. It is due to some injury, either mechanical or chemical, or both, to the tissues surrounding and supporting the teeth. Some very common causes are ill-fitting crowns, plates, bulging fillings, ligatures, rapid or excessive moving of the teeth, laceration in finishing fillings, or, in short, anything that tends to injure the tissues or collect food débris. The most common cause is the accumulation of food débris, not in particles, but that soft paste which adheres to the necks of the teeth at the gingival margin. This undergoes chemical changes during decomposition, the products of which inflame the gums. The formation of serumal calculus, following the primary inflammation, still further increases the inflammation, and, when the tissues have been reduced in vitality sufficiently, pus is formed, and we have well-defined pyorrhea. We must remember that in the mouth we have an ideal incubator, with excellent culture medium in the shape of food débris and partially devitalized soft tissue and a plentiful supply of many forms of bacteria. As the pyorrhea progresses, toxins are formed which hasten the progress of the necrotic condition surrounding the roots of the teeth. I do not mean to imply that extensive necrosis of the process exists, as such a condition is very rare, but almost invariably there is considerable necrotic peridental membrane, which must

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be removed, and it is frequently the failure to remove such tissue which causes a continuance of the discharge from pyorrhea pockets.

It has been repeatedly demonstrated, and is the belief of many of our best men, that pyorrhea is practically impossible in a mouth that has always been kept scrupulously clean, no matter what the constitutional condition may be. It is also acknowledged that the extraction of teeth affected by pyorrhea results in a cure of the pyorrhea. If the discharge continues, it is due to caries or necrosis, which is the result of pyorrhea, and surgical treatment is indicated. Such treatment, if thorough, is effective in establishing health to the parts. Is not this satisfactory evidence that the disease is purely a local one? Some years ago the only remedy known to the great majority for the cure of alveolar abscess was extraction. Now, any competent man can successfully treat the majority of such cases and save the affected teeth for an indefinite period. Even further back it was generally believed that teeth that were suffering from caries must eventually be lost, and they were frequently extracted as a result of such belief. We are just beginning to emerge from a state of mind relative to pyorrhea which may well be compared with those just described, and the day will undoubtedly come when the dental profession as a whole will, as a matter of course, advise their patients to have pyorrhea treated with the assurance of successful results. The time will never come, however, when the majority of general practitioners will be able to successfully conduct such treatment. While the condition and its explanation are simple enough, the operation is a most difficult one requiring certain qualifications which are not common, and years of tireless effort in the acquisition of the technique which is necessary to obtain the desired result.

It is the duty of every practitioner to know that pyorrhea can be cured permanently, and to so inform his patients, for whether he will or not, he must bear the responsibility for the teeth that are under his care, and if unable to save such teeth, he must give his patient the opportunity of having them saved by one who is capable of administering the necessary treatment.

Recurrence Preventable.

Practically all pyorrhea is unnecessary and preventable in the mouths of those who are regularly under the supervision of a dentist. The function of the general practitioner is to correctly diagnose pathological conditions existing in the mouth, to prevent disease by proper prophylactic treatment, and to prevent recurrent pyorrhea in the mouths of those who have been treated. If we allow unsanitary conditions to recur, we are practically sure that there will be true recurrent pyorrhea. While on this point, I wish to call your attention to the fact

that very frequently an erroneous idea prevails as to what constitutes a recurrence. Many confuse the term recurrence with continuance. Recurrence implies a previous discontinuance. We may have recurrent symptoms of a continuous condition, but can not have a recurrent condition, unless a previous cure has been effected. A cure does not guarantee immunity, and a true recurrence in no way invalidates a cure. If proper care is given mouths which have been properly treated, the general tone of the tissues will continue to improve, and the mouth will become more healthy subsequent to the completion of the operation. This is no theory, as it is the almost invariable result in the cases which have come under my care. Usually, the dentist ignores inflammatory conditions until they have advanced to such an extent that more than half of the supporting tissues has been lost; pus is discharging profusely and nature is endeavoring to exfoliate a member which has not only lost its function, but which has become a menace to the existence of the adjoining teeth and to the health of the entire oral cavity, and frequently to the constitutional health of the patient. Then when such a mouth presents, the usual verdict is, "You have Rigg's disease, and nothing can be done to save your teeth." The latter part of the statement is often at this time only too true as regards some of the teeth. But I never have yet seen a case in which all the teeth in any mouth were hopelessly involved. Whether or not some of the teeth must be extracted, whose fault is it that such a state has come about? If the profession will only take the time to make proper examination of all the tissues of the mouth and establish and maintain sanitary conditions, instead of merely mechanically repairing and replacing damaged and lost teeth, pyorrhea may be successfully treated before it has progressed so far as to occasion the loss of any of the teeth, or a sufficient quantity of the supporting tissue to impair their usefulness.

It takes, in the majority of cases, from ten to twenty years to establish a general well-defined pyorrhea. And during any part of this period, especially the latter half, unmistakable evidences exist which may be easily detected by careful examination with the instrument. Even such examination, I am sorry to say, in thousands of cases, would be unnecessary to determine that such a condition exists.

It would be impossible to describe fully the
Treatment. method of treatment in such a way as to enable one to successfully carry it out.

Only a brief outline can be given, and each man must learn by long and arduous work how to do it properly.

Many have assumed in the past that they could, offhand, achieve success if the method was explained and the proper instruments used. The



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inevitable result of such belief has been a failure and the renewal of the statement, "pyorrhea is incurable."

All calcareous deposits must be removed from the crowns and roots of teeth. Necrotic membrane must be delicately and thoroughly removed, the surfaces of roots made perfectly smooth without excessive removal of cementum, the pockets washed out and the crowns and necks of teeth polished carefully.

Patients must be well instructed in the care of the mouth, and the dentist must see to it that his instructions are faithfully executed, as cooperation is imperative. Usually prophylactic treatment at intervals of from two to three months will suffice to keep the mouth in a healthy condition, and if there is a recurrence or you fail to effect a cure, it is because the operation has not been thorough, or the mouth has not been kept clean after the operation.

When a cure has been established and the mouth is cared for properly, there will not be only no recurrence, but the tissues will continue to improve. Even when mouths have been neglected for some time the condition continues to improve. I have seen a number of cases in which there has been no prophylactic work done for a year or more subsequent to operation, and there has been not even a slight gingivitis resulting. These have been cases of aggravated pyorrhea when presented for treatment, and cases which have been sent to me by men who have been thoroughly familiar with the conditions. Many such cases have been under treatment for years by men of unquestionable ability as general practitioners. The result of their treatment has been unsatisfactory and the cases have been considered incurable by them. In all of these cases complete and permanent cures have been effected by me, and many within a period of a few weeks.

Astringent and germicidal preparations control symptoms only and do not touch the real cause of the trouble. When such treatment is discontinued the natural result is a return of the symptoms. These preparations are valuable as an adjunct to surgical treatment, but are useless when employed as the only means of effecting a cure.

In summing up, I will briefly state what I consider the important facts concerning this subject.

Conclusions.

First.—Pyorrhea alveolaris is curable.

Second.—It is a local affection and amenable to surgical treatment.

Third.—Recurrence is not inevitable, but can practically always be prevented by proper prophylactic treatment.

Fourth.—It is an unnecessary condition and impossible in clean mouths.

Fifth.—Constitutional conditions can, in most cases, be entirely

ignored as far as treatment is concerned, as a complete cure is possible, if the operation is properly performed, without the elimination of the constitutional disorder.

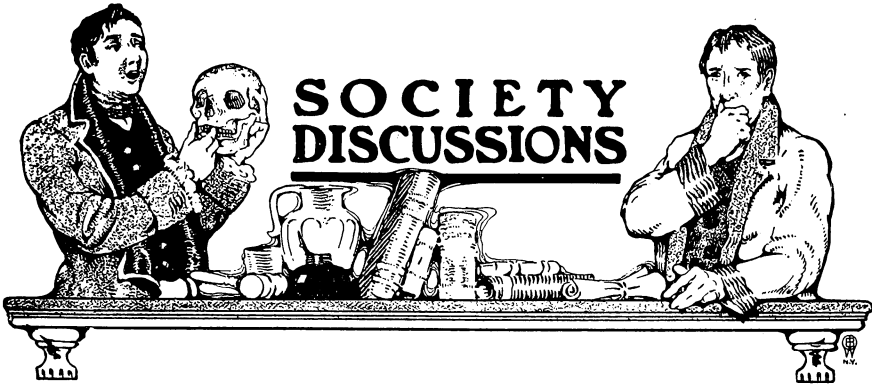
Sixth.—It is the duty of every practitioner to recognize all pathological conditions of the oral cavity at any stage of their existence, and to treat the same if he is competent to do so, or else to recommend that the case be placed in the hands of a specialist.

Seventh.—The time will never come when every dentist can successfully treat pyorrhea. It is unreasonable to expect that what requires special training can be accomplished by one who only occasionally engages in such practice. It is also unreasonable to believe that because the operation can not be accomplished by the majority, it is impossible.

Implicit belief in the efficacy of any operation is essential in order to attain the fullest measure of success, and to inspire confidence and cooperation on the part of the patient. We can not expect successful results at the hands of those who do not believe in what they are doing. They expect failure and usually get what they expect. If one man succeeds once in accomplishing the desired object, it proves that it can be done, and a thousand failures can not alter the fact. I do not, however, believe it to be wise for anyone to make positive assertions on the strength of one success. During a period of from fifteen to twenty years I have been successfully treating pyorrhea alveolaris, so that what I have said is not based on theory, but has been conclusively demonstrated clinically. To use a legal term, "I know of my own knowledge" that these things are true, and not by hearsay. Many well-known men all over this country have had similar experience and have been compelled to arrive at similar conclusions.

It is my earnest hope that in the near future the profession will accept our beliefs, for in so doing great good will result and humanity at large must receive inestimable benefit.





New Jersey State Dental Society. Thursday Evening Session.

President Gregory called the meeting to order.

The Secretary called the roll and a quorum was found to be present.

The Membership Committee presented a number of applications for membership.

The following resolution was then presented by Dr. George H. Hague:

"WHEREAS, It appears that a great number of citizens of the State of New York who have received the degree of D.D.S. have applied for and taken the examination before the State Board of Dentistry of this State, upon credentials of preliminary education issued by the State Board of Regents, and have been admitted to practice dentistry in this State; and

"WHEREAS, It appears that citizens of the State of New Jersey, who have the same degree and also the qualifications of preliminary education for the State Board of Dentistry of New York, have been unjustly discriminated against upon applying for license or examination in New York State; and

"WHEREAS, Such discrimination seems to be wilful and for the purpose of preventing citizens of this State from receiving a license in the State of New York; therefore, be it

"Resolved, That it is the sense of this meeting that this society go on record as protesting against the unfair discrimination on behalf of the State of New York; and be it further

"Resolved, That this association bring it to the attention of the Legislature of this State for the purpose of having such laws enacted as will exact conditions on behalf of citizens of a foreign State applying for

SOCIETY DISCUSSIONS

a dental license in this State, as is required by such foreign State of citizens of this State; and be it further

"Resolved, the Legislative Committee of this Society be directed to draft a proper bill to be presented to the next Legislature, for the purpose of having such additional legislation passed as will protect the practice of dentistry in this State along the lines set out in this resolution."

The President. It seems to me this resolution is one for the action of our Legislative Committee rather than for discussion in the Society.

Dr. Thompson moved the resolution be referred to the Legislative Committee. This motion was regularly seconded.

Dr. Jones. I would like to ask the Secretary of the State Board of New Jersey whether they were aware that there was some discrimination in favor of New York men.

Dr. Meeker. It has been brought to our attention, and the only way I know of to remedy it is by legislative action.

Dr. Jones. I would like to hear from Dr. Luckey.

Dr. Luckey. My interpretation of the matter is that the State of New York probably knows what it is doing. If I were a lawyer I should want to examine the gentleman who has presented the resolution and ask him a few pertinent questions. The officers in charge of dental affairs in the State of New York are presumably competent to act in the premises and are presumably honest in their action. That there has been discrimination against applicants from New Jersey by the State Board of New York, I have never been aware of; this is the first instance that has been brought to my attention. Certainly New Jersey does not discriminate against applicants from New York. Reciprocity between our two States existed some few years ago, whereby a man possessing the requirements of the State of New Jersey was given a license by New York on presentation of its credentials, and this was done in a similar way in New Jersey, but our standards were different in a degree in the matter of preliminary education, New Jersey requiring a man to have a preliminary education, which was interpreted by the Superintendent of Public Instruction in this State to mean the common school, and not the high school; while New York required a high-school certificate or its equivalent. Whether this gentleman has measured up to all the requirements of the State of New York I do not know. As I understand him, he says he has.

Dr. Hague. They tell me I have the qualifications to study dentistry, but not the qualifications to practice it.

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Dr. Luckey. I can not understand that, but I presume there must be some deficiency in the papers, because there is a law in the State of New York governing this whole matter. But redress is easily had, if there has been any invasion of the gentleman's rights. The courts are open to him, and it is not for us to regulate the subject nor to dictate to the State of New York what they should do for candidates from New Jersey seeking license in New York. It would be impertinent on our part to try to lay down rules for the guidance of other State boards. We are the judges in our own State, but can not go beyond that.

If we understood all the details of the case we might advise or use our influence to aid him, but I do not think it wise to take any action now except along the lines of the proposed resolution.

Dr. Hague. As far as my having any grievance is concerned, I think this paper shows the situation and, as far as any personal questions are concerned, I should be glad to answer them. I am not here to misrepresent the matter in any way. I am a young practitioner and the older men look at these matters a little differently from the younger men. As far as my grievance is concerned, I think it is a just one. The New York law gives the Regents such discretionary powers that it is hard to understand the requirements—I may interpret the law one way and they can rule another.

I not only have the preliminary qualifications, but on an examination of the Baltimore College I can get a 60-count medical certificate.

How is it the graduates of New York schools can do the very thing they claim I can not, when they have not their preliminary examinations, and yet may receive certificates to come here and take our examinations and pass them?

Dr. Luckey. That is because of the rules of our board. The law which governs the action of our board allows that, while in the State of New York the law does not allow it.

(After some further discussion the motion to refer the resolution to the Legislative Committee was adopted.)

The president announced the following committee appointed under Dr. Meeker's resolution:

Drs. Stockton, Holbrook, Meeker, Thompson, Brinkman, Irwin, J. G. Halsey, Iredell, Truex, and Hawke.

The President then introduced George W. Cook, D.D.S., Dean of the University of Illinois, Chicago, who read his paper.

On motion of Dr. Stockton, a vote of thanks was extended to Dr. Cook for his very able paper.

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Friday Morning Session.

President Gregory called the meeting to order.

The Secretary called the roll and a quorum was found to be present.

The Membership Committee reported the following applications, which the chairman stated had been passed upon favorably by the Executive Committee, and there being no single objection, on motion the following gentlemen were elected unanimously by the Society, the Secretary casting the ballot, and the President declared them so elected:

Forrest N. Brown, Watertown, N. J.; Maurice Tepper, Bayonne, N. J.; J. Staven Barrett, Morristown, N. J.; Charles B. Davis, Plainfield, N. J.; Clive W. Montfort, Plainfield, N. J.; Albert Marcus Epstein, Camden, N. J.; H. W. Conrad, Hasbrouck Heights, N. J.; Edward H. Doughty, Atlantic City, N. J.; William A. Abbott, Atlantic City, N. J.; Louis Gross, Newark, N. J.; Cyrus Krutz, Paterson, N. J.; Otis B. Whitford, Plainfield, N. J.

Dr. Fowler, from the Clinic Committee, reported 35 table clinics, of which 6 did not appear, and 30 chair clinics, of which 7 did not appear.

That all other clinicians were present and gave their clinics.

The Society has purchased six new chairs and procured from the State Board twelve chairs and that the committee borrowed three engines, which have since been returned.

On motion, the above report was received with the thanks of the Society for the committee.

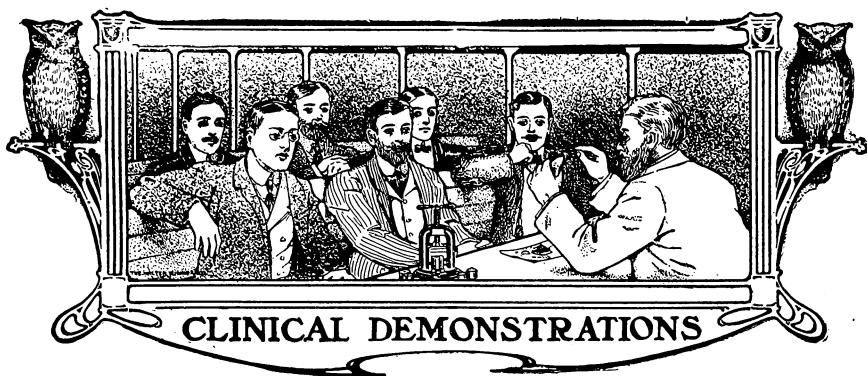
On motion of Dr. Hawke, a vote of thanks was tendered to the clinicians, essayists and all others who have contributed to the success of this meeting.

The Society then proceeded with the inauguration into office of the newly elected officers.

Dr. Fowler presented his resignation as chairman of the Committee on Reorganization, and, subsequently, a motion was adopted whereby the entire committee was discharged with the thanks of the Society for the work done by it.

On motion of Dr. Brinkman, a vote of thanks was tendered to the retiring President for the able manner in which he had conducted his work during the past year.

On motion, adjourned *sine diē*.



Clinics before the New Jersey State Dental Society.

Cast Aluminum Plates
By Robert Seymour, D.D.S.
Philadelphia, Pa.

Aluminum castings can be made in the same investment as the gold inlay, but I get better results in a coarser investment, and for this purpose I use red bird gravel, which may be purchased at any drug store. This is mixed in the proportion of three of gravel to one of model plaster. The cast is made of the same material, and if a vacuum chamber is needed it must be cut in the impression. The plate is waxed in the usual way, with the following additions: A rim is placed on the labial and buccal edges and another a short distance inside the center of the ridge. The space left in these rims is spurred for the retention of the rubber. A roll of wax one-quarter inch in diameter is carried across the plate from ridge to ridge, and another from the ridge at the median line to meet it. The union should be at the center of the plate, and at this point place a wax sprue, the same diameter as the cross-piece and one-quarter inch long. The plate being ready to invest, place the cast in water and allow it to absorb all it will take up. Investment material is mixed, using the same as for cast, and a quantity poured on a glass slab. The cast is placed on this and pressed down, allowing one-quarter inch of investment to remain between the cast and the slab. With spatula and brush cover the cast until nothing remains showing but the sprue. Partially fill the cup with the same mixing, and while still soft carry the cup over the cast until it rests on the slab. The excess is forced out at the bottom and top of cup and should be removed from the top opening until the wax sprue is exposed.

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The mold is prepared for casting in the same manner as for an inlay, except that it takes more heat and longer time on account of its size. Borax should not be used in melting as it is injurious to the metal, but an occasional stir with a small stick will aid in bringing the metal to a fluid condition.

Some Points in Gold Inlay Work **By Charles F. Ash, D.D.S.** **New York City**

An easy and accurate method for removing the wax model and pins, where iridio-platinum pins are to be used with cast gold inlays, for building up the bite, etc.

It frequently happens that the pins and wax do not come away together without being distorted or broken.

After drilling two parallel holes in the incisal edges of the tooth, take a piece of iridio-platinum wire and bend it in the form of a staple, so that the ends fit well down into the holes, and the cross-piece is fairly snug to the edge of the tooth. After the staple is properly fitted, remove it and to the center of the cross-piece, and at right angles to it, solder a thin piece of wire. Then soften wax, force it to place, and shape it. Next, take a pair of flat-nose pliers and, grasping the staple by the thin piece of wire, hold it in Bunsen flame until well heated; then force it through the wax into the holes previously prepared for it. With a warm spatula the wax can be smoothed off, leaving the thin piece of wire projecting from the wax. Then chill wax with ice water, and by taking the end of the thin piece of wire in a pair of flat-nose pliers, the whole can be easily removed and placed on sprue. After casting, the thin piece of wire is cut off close to inlay.

Model Preparation and Investment for Large Castings **By D. H. Zurbrigg, D.D.S.** **Philadelphia, Pa.**

The different steps from a properly prepared impression to the finished casting were shown by models of each stage of the work, particularly full cases for vulcanite attachments.

The impression (with carved-in vacuum chamber, if any is called for) is stained with shellac varnish, then given two coats of sandrac varnish, or enough to give a decided glaze. Have ready two plaster bowls. The first is used for ordinary casting investment material (cast plaster 1 part, extra fine sillex 3 parts), and with this, mixed rather thin, the impression is given a thin ($1/16$ to $1/8$ -inch) coating by means of a camel's-hair pencil. As speedily as possible, and before the foregoing has had

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time to set, complete the building up of the model with an investment material of cast plaster 1 part, white bar sand 3 parts.

In flasking, the same method is pursued, first coating the wax model or form with the fine investment to assure all fine lines, edges and spurs being covered, and then completing the filling of the flask with the coarser sand investment.

A base model so prepared does permit of its being carved for relief or other changes, and still produces a perfectly smooth casting. Whereas a model made entirely of the sand investment can not be touched without presenting an irregular roughened surface.

Sand investment is necessary in all large work both for strength and rapid drying out. The two investments used as above, can not separate on drying out, and, therefore, wings, spurs and so-called bubbles are unknown.

This method, while designed particularly for use by the negative or vacuum casting process, is applicable to other casting methods. A flask with an absolutely airtight joint to cup or holder was also shown.

Suggestions on Public Lectures and How They May Be Made Interesting

By C. P. Hyatt, D.D.S.

Brooklyn, N. Y.

Dr. Hyatt showed an interesting collection of slides to illustrate talks upon dentistry delivered to the general public. The Doctor suggests that such talks be divided into three parts, viz.: historical, humorous and practical. The set of historical slides showed dental operations performed several hundred years ago as well as many of the instruments used and samples of the work done. Dental operations upon animals were also shown, one in particular showing an elephant extracting a tooth of another elephant, which actually took place at Luna Park, Coney Island. The humorous slides showed many interesting subjects, one being an oyster attached to an upper set of teeth where the owner sewed on white buttons to replace teeth broken off. The set of slides used to present the practical side of the subject consisted of a number of illustrations showing the gradual growth of the teeth from birth to adult life; a colored cross-section of an incisor; a colored slide showing the nerve supply; while others showed cases of orthodontia, etc. Dr. Hyatt also suggested that the instruction in how to cleanse the teeth with the brush and floss silk and other information upon the care of the teeth and mouth be given after the slides has been finished and the lights turned up. The Doctor also assured his hearers that this lecture can be made of very great interest to children of all ages, some even as young as six years exhibiting great pleasure and expressing their intention of caring for the teeth. In

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response to the many requests from dentists to know where they might procure such slides, or the loan of such a set, Dr. Hyatt said that if they would write to him he would make arrangements with the maker, so that sets of fifty could be purchased for about \$20, or the set rented for probably \$5. There is a large number constantly asking for information upon the subject, showing the awakening of interest among professional men as the importance of educating the public upon the better care of the teeth.

Matrix Preparation for Porcelain Inlay

By Walter W. McKay, D.D.S.

Philadelphia, Pa.

The clinician demonstrated a method of using cotton tape to assist in the matrix formation for porcelain inlays, the tape being used to carry the platinum before it and to prevent tearing and breaking.

Platinum is first thoroughly annealed in an electric furnace to obtain as much softness and pliability as possible. A piece of generous size is then taken, allowing enough overlap to be able to hold the matrix firmly with the fingers.

The matrix is started into the cavity with the ball burnisher. A piece of cotton binding tape one-half inch wide is then wet so that it will stretch down into the cavity. This is pulled tightly over the matrix and cavity and the burnishing completed with suitable burnishers, burnishing over the cotton tape. The tape holds the matrix at all points and prevents rocking, and also holds an even tension over the surface of the platinum, preventing the burnishers from puncturing it. In this way matrices can be made absolutely free of all wrinkles and are seldom torn or punctured to any extent.

Dry Treatment of Pulp Canals

By Charles F. Booth, D.D.S.

Canandaigua, N. Y.

A dry treatment for putrescent root canals is accomplished by the use of carbonate of lime, commonly used by masons. This material performs two actions, viz.: mechanical and medicinal; mechanical in its powerful affinity for moisture; medicinal in its antiseptic nature.

Open the root canal freely, then with a fresh broach carefully turn in the root canal, engaging as much of the pulp tissue as possible. Remove this, then with the broach dipped in the lime powder, carry to the canal; by repeating the application of the powder to the canal you will soon find the pus taken up in the lime. Then work the mass out with

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broach. The lime powder acts upon the contents of the root canal as a blotter acts upon a drop of ink by the absorbent nature of the lime. Thus you avoid forcing septic matter through the end of the root.

I want to speak of the value of lime in the operation of reducing hemorrhage for immediate filling following pressure anesthesia. Allow the wound to bleed freely for a minute; then syringe out, follow with the use of lime until hemorrhage ceases, which will be but a short time. Complete the operation at one sitting.

Human Odontography

By George J. Paynter, D.D.S.

Philadelphia, Pa.

I exhibited a curtain about twelve yards long and a yard and a half wide upon which were painted a series of diagrammatic pictures of the development of the human teeth.

The principal thought in the series was to give briefly the consecutive order in which a cell would metamorphose in said development. Starting as a simple cell, the first series of changes are those of the maturation of the ovum; then its impregnation and the karyokinetic changes that are concomitant with the formation of the blastospore and blastoderm, until the three primary tissues of the body are reached—the ectoderm, the mesoderm and the entoderm. The illustrations then showed a series of diagrammatic changes taking place in the ectodermic and the mesodermic tissue, which give rise to the tooth germs and their consequent development.

My object is to show the morphological changes which occur, in a logical sequence, which will convey to the mind a complete story of the formation of the deciduous and succedaneous tooth.

The illustrations treat the microscopic side of dental anatomy from an architectural standpoint, treating surfaces externally and internally, and analyzing them histologically.

It is deemed best to introduce a system of shorthand signs at this point for the sake of brevity of expression. I then took up a comparative analysis of the occlusal surfaces of the bicuspid and molars; a study of the roots as they support the crown, and their relationship; then the temperamental effect of the overbite, and its relationship to the height of cusps, glenoid fossæ, etc.

The next step is to study the transitory stages of the tooth germ in its migration from a deeply situated follicle until it is erupted at the epithelial surface, and a study of the various sizes of the apical foramen and their relationship to medication.



Artificial Dentures

By S. C. G. Watkins, D.D.S.

Montclair, N. J.

Dr. Watkins demonstrated his individual method of making artificial dentures. He described his method of taking impressions for a full set, by first taking the impression with wax and then pressing away, or cutting the wax out, so as to leave some space; and then placing plaster into that impression, which makes a good impression cup, and carrying the plaster to the mouth and pressing it home firmly. This forces the plaster against the tissues, so that the result is a perfect impression.

Impressions for Partial Cases.

In taking an impression for a partial set, after taking it with wax first, the same as for the full set, he then removes a portion of the wax from around all standing teeth, so as to make room for the wax which he afterwards places on the natural teeth and for the plaster.

After the wax impression is removed he then cuts away the wax in the wax impression from around the teeth; he then cuts a strip of pink baseplate wax and places it in warm water to soften, and then molds it carefully around all remaining teeth in the mouth, and warns the patient to keep the mouth open so as not to distort it; he then mixes plaster quite soft and pours it into the wax impression and carries that home firmly in the mouth. When it is thoroughly hard, it then can be removed by giving it a little motion and breaking the connection between the wax and the teeth. The wax will give sufficiently to allow the impression to come away without tearing it to pieces. The result is that you have a perfect impression of the roof of the mouth, and if it is marred or distorted at all around the teeth that can easily be remedied by carving.

Treatment of Cast.

The plaster cast is then made, and when hard, trimmed thoroughly. The cast must be scraped all over so as to allow for the thickness of tin-foil. Wherever there is any softness in the roof of the mouth, the cast must be scraped very heavily, making a deep groove across the back of the plate, and also around the sides of the roof of the mouth, just outside of where an air-chamber would be placed, if one were used, bearing in mind that the rugæ are not scraped away, but scrape between the rugæ. Where there is any very hard bony place in the mouth it is not to be scraped away, but in such cases, where they are extremely hard, he would place one, two, three, or four thicknesses of No. 60 tin-foil over them so as to give them relief. The idea of scraping is so that when the plate is made it will press very hard upon all soft parts, driving the soft tissue up almost to the bone, and when it reaches its bearing it has then come up to the

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hard tissues, and the result will be that the plate will have an exactly solid bearing everywhere, with no rocking or wobbling, and perfect suction.

After the model is scraped, No. 60 tin-foil is worked over the entire cast, working it down into all uneven places, and, when it is carefully worked over and rubbed down, the cast is then covered with fairly stiff shellac varnish, and then, before it is dry, the tin-foil is placed on again and burnished down on to the cast so that it is fairly a part of the cast, fitting so closely that it really makes very little difference in the size of the cast.

The Trial Plates.

The base-plate is then applied and stiffened with iron wire, running wire around the ridge; also in two or three places across the plate, making it very stiff, so that the articulation can be taken without warping or distorting the base-plate, and when the articulation is taken it can be placed back upon the model and it will fit, and you can then depend upon the articulation being right—not distorted and entirely out of place, as it would be if the base-plate were not stiffened.

Selection of Teeth.

The teeth are then selected for their color, shape, and general conformity to the features, contour and complexion of the face, always bearing in mind that in the natural mouth the teeth are not all of the same shade. Therefore, it is necessary to select teeth from more than one set. Dr. Watkins rarely, if ever, makes a denture using but one set. In almost every case he will use teeth from two, three, or four sets, in order to get the proper expression and to give that which can hardly be explained, but a lifelike appearance to the face, so that when the patient will laugh and show the teeth, the thought will not be that they are artificial teeth, but rather that they belong to that face. In cases where the natural teeth have been irregular, the artificial teeth would not be set regular, but with the same irregularity as were in the natural teeth, only not so pronounced—simply a suggestion. In cases where patients have lost their teeth from pyorrhea, the teeth have a straggling appearance. He would carry that idea out, also, by being careful to have those teeth so arranged that they would not change the patient's face or suggest that a set of artificial teeth had been introduced, but rather, simply a suggestion of that trouble, which, instead of suggesting artificial teeth, would suggest that, perhaps, the patient had been having her teeth treated and improved.

Waxing Up and Flasking.

When the teeth are set up and in the right position oxyphosphate cement would be placed between the teeth to prevent the rubber from coming through, so that each tooth would have its own individuality, and not have the spaces all filled with rubber. All of the palatal surface

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of the base-plate would then be removed with a wax-spoon, simply cutting it just inside the teeth, and then in its stead taking a single sheet of pink base-plate wax, soften it in warm water and mold it down around the roof of the mouth and seal it with wax to the teeth as they are set in, supplying a new base-plate over the roof, bringing out all the rugæ in their natural form. The No. 60 tin-foil is then placed over the lingual surface of the base-plate, rubbed down and fitted well, and by simply a little warming the tin-foil will stick to the wax thoroughly; it is then trimmed around, leaving the edge to stand up about an eighth of an inch above the teeth. This excess is nitched with the scissors and bent over so that when the plaster is poured in, the tin-foil on the model will be held by the plaster to the lower half of the flask and the tin-foil on the lingual surface will be held by the plaster in the upper half of the flask, so that when the flask is separated there will be tin-foil covering the mold on both sides, so that when the rubber is placed in, and the flask pressed together, it will be pressed between two tinned surfaces, and the result will be that the plate will be very much more dense than if it were made between plaster; not only that, but it will come out of the vulcanizer clean when the tin is peeled off, as it can be by taking hold of it with the fingers and peeling it right off. This will leave a perfectly polished plate on both sides, and by trimming the rubber around the edge without any filing or scraping over the surface, and then simply buffing it, you have a perfectly finished plate, which has a uniform thickness throughout, very strong and dense, with a polished surface coming in contact with the roof of the mouth; a plate that will not absorb secretions to anything like the extent that a plate made in plaster would; a plate that will cure what is known as "rubber sore mouth," from the fact that it is dense, close-fitting, does not absorb secretions, and the feeling in the mouth to the tongue is such that the patient really can hardly tell whether it is the plate or the natural mouth which the tongue is touching.

Gold Inlay

By Dr. R. S. Clarke
Mount Holly, N. J.

Showing how a casting can be made in twenty minutes after the wax model is secured, with only five-minutes' personal attention during this stage. Also showing how the investment can be dried with least amount of heat and cast with least amount of force, which lessens the danger of the investment being injured.

A patient was secured with a large occlusal cavity in a lower second

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molar. The cavity was prepared as usual, using cement to fill in the undercuts and having the walls nearly parallel.

J. & L. black wax was used for the model, and was withdrawn by means of No. 26 copper wire. The model was then mounted on the sprue former, and coated to a depth of about one-eighth inch with I. D. L. investment material, mixed to the consistency of very thick cream. Then, by measure, sand, water and small quantity of salt were mixed; then an equal portion of plaster of Paris, as of sand, were mixed together quickly and poured into a rubber ring; then the coated model was dropped into position.

In about five minutes this was hard enough to be pushed out of the rubber ring, and placed immediately on a circular gas-burner with the flame turned half high. As the investment was unconfined, there was no danger of explosions from confined steam.

At no time was the investment heated hot enough for the wax to ignite, the wax disappearing as smoke and being absorbed into the investment. (This method applies only to making inlays.)

In about ten minutes, or, when the dark discoloration had appeared around the sprue-hole, and the smoking nearly stopped, the investment was placed in the arm of the Clarke Casting Machine, the tray drawn about one inch away from the investment, when melting gold, so as not to overheat the investment; then, after the gold had assumed the globular shape, the tray was pushed against the investment; the heat continued and the arm revolved by means of a gear at just a speed to produce sharp edges on pure gold and no more. The handle is started with a steady, quick push at the rate of one revolution in one second and continued at this speed until the light in the gold disappeared.

The casting was then washed and shown to have true edges and no imperfections.

The casting was then placed in the cavity and fit accurately without alteration. The sprue was cut off, grooves cut in sides, the cavity dried and the inlay set with cement in the usual way. After the final polishing no cement lines were visible.

An exhibit was also made of a gold inlay made by this method, and placed in a disto-occlusal cavity over two years ago.

A backing for a natural tooth was also shown. The tooth was ground on the lingual surface and grooves made at sides and at the base. One five-hundredth pure gold-foil was then burnished on the back, withdrawn and wax melted upon it, then returned to the tooth and carved.

This was withdrawn and cast in the usual way, using gold and platinum.



Oral Surgery

By Dr. Henry Sage Dunning

Director of Oral Surgery Clinic, New York College of Dentistry; Dental Surgeon New York Hospital; Dental Surgeon Bellevue Hospital.

Bismuth Treatment of Chronic Sinuses and Fractures

Five Patients.—Two suffering from fracture of the inferior maxilla and three with chronic suppurating sinuses.

Young man, 21 years old; hit with black-jack
Case I. left side of jaw, producing fracture of mandible posterior to second molar. Patient came to the oral surgery clinic at the dental college two days after injury. Face greatly swollen, and patient unable to open mouth. Abscess forming at point of fracture. Upon examination a badly decayed second molar was discovered, and also an erupting third molar in the region of the fracture. Patient taken to hospital, where abscess was opened on outside of face, and at the same time I removed second molar under general anesthetic. Two days after operation face resumed normal proportions, abscess draining freely. Splint was constructed to hold fractured parts. Good union of bone followed in about five weeks.

Man, 38 years old, multiple fracture of inferior
Case II. maxilla; came to me one day before Asbury Park meeting. Fracture received a few hours before coming to clinic, caused by upward blow of fist on point of jaw. Face bruised, gums lacerated, points of fracture at symphysis and posterior to second molar. Sections of bones loose, showing crepitus; great mobility, and marked deformity. Ligature wires were placed on molars and canines on both sides of mouth and on upper and lower jaws. These wires were then twisted together. In this manner the fractures were immediately reduced. Exact occlusion was obtained and all deformity overcome. The median line of the upper jaw coincided with the median line of the lower jaw, and when this occurs one can be very sure that the fracture is completely reduced and parts well co-adapted. The lower jaw will be fastened to the upper in this manner for about two weeks, until a fibrous union is established, when a cap splint will be cemented on teeth. Impressions of both jaws had been previously taken, so that in constructing splint the fibrous union will not be disturbed by taking impressions. Patients, when wired in the above manner, take their food by sucking milk, eggs, etc., between their closed jaws, and also by means of glass tube back of third molar.

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Case III. Young man, 20 years old, tubercular, chronic abscess over first molar; discharge of pus for two years. Abscess at one time opened on face through sinus, but at present this sinus had closed and only scar remained. First molar had been extracted some time before I saw case. Small sinus discharging a stream of pus over second molar. Week before meeting at Asbury Park I made a large incision over second molar, running along alveolar border about one inch and a quarter. Found large pocket of pus extending up under the malar bone. This sinus was carefully irrigated with bichlorid of mercury (1-5000), and then was injected with bismuth paste (1 part bismuth subnitrate, 2 parts white vaseline). The paste is a liquid when warm, and is squirted gently into the cavity with a glass syringe, completely filling all parts of cavity. Paste becomes semi-solid upon cooling and plugs sinus, preventing food and foreign matter from entering. It acts as a mild antiseptic and an astringent, promoting granulating tissue, and is non-irritating. It is partly absorbed by the tissues, and is partly washed away by fluids of the mouth. Such cavities are injected about three times a week, and very good results have been obtained.

Case IV. Man, 40 years old. History of alveolar abscess about year ago in region of first lower molar. When I first saw the case, two months ago, all teeth on side of abscess up to canine had been removed, large amount of gum tissue lost. Necrosis of alveolar process and body of bone. I removed large pieces of bone from time to time until the inferior maxillary bone was nearly divided down to its inferior border. I injected bone cavity with bismuth paste, thus keeping cavity clean and free from food, etc.

Case V. Man, 48 years old; came to clinic four months ago, all teeth in mouth, but teeth on lower jaw very loose. Advanced case of pyorrhea alveolaris. Pus discharging around necks of teeth and from a dozen sinuses in different parts of the lower jaw. Patient probably swallowing four ounces of pus a day. Patient anemic and in very poor condition. Removed all teeth in lower jaw one by one, and found great masses of necrotic bone beneath. Split the gums along the ridge antero-posteriorly, and removed large pieces of process. Abscess was opened on outside of face on inferior border of inferior maxilla. Three sinuses carried discharging pus from necrotic bone to face. Split the gums in many directions and removed pieces of bone from jaw for many weeks. Finally removed all alveolar process of lower jaw and part of body of bone on right side. Three or four sinuses still discharging. For three months injected with bismuth paste regularly three times a week, and when presenting case at the New

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Jersey State Dental Society all sinuses were closes except one deep cavity, which extended from first molar region to angle of jaw, nearly opening on face. This sinus stopped discharging under the bismuth treatment in about three weeks after Asbury Park meeting.

Dr. Beck, of Chicago, first introduced the treatment of suppurating sinuses with bismuth paste, and I believe all credit should be given him in this work.

Oral Surgery

By G. Lenox Curtis, D.D.S., M.D.
New York

Dr. G. Lenox Curtis reported the case of Mr. G. (demonstrated by him before the society last year), in which the entire upper maxilla, vomer, nasal turbinated, palate, ethmoid, and the lower surfaces of the sphenoid and basilar process of the occipital bones were suppurating and partially necrosed; patient had entirely recovered and the patient's health was restored. It will be remembered that all of the upper jaw, anterior to the molars, as well as the roof of the mouth, including the hard palate was completely necrosed, and along with the front and bicuspid teeth was lost. The remaining upper teeth were loose, and the bone and soft tissue around most of them suppurating, as well as the right antrum of Highmore. The soft palate was completely restored, and the hard palate reproduced, because the periosteum was found to be only partially destroyed. Fifty of the sixty pounds lost in weight were also recovered. The speech and deformity were also restored by an artificial denture. The case had been previously diagnosed as syphilis and cancer, and for four years had been under retrograde treatment.

The doctor then showed the case of Miss R—, which he demonstrated at the clinic three years ago, in which most of the alveolar process of the entire lower jaw was lost, by reason of necrosis and blood poisoning, following an injection of a local anesthetic for the extraction of a molar. The jaw showed a remarkably good state of health. All the teeth were firm, and there was no appearance of deformity. The case was reported in the *Dental Digest*.

Mr. B—, aged 70, who for twenty years had worn the same lower denture; a year ago noticed a canker sore near the left molar, caused by the loosely fitting plate. The condition continued to increase, and on April 1st, last, he consulted a physician. The case was subsequently seen by several surgeons, who finally pronounced it the most malignant type of epithelioma, and that surgical interference was unwarranted, and recom-

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mended that the case be placed under Dr. Curtis's care. This was done June 1st. The growth then involved all of the left cheek (except the skin), extending along the bone from the symphysis to the temple. The treatment consisted of injections of a fluid, which, when coming in contact with tissue of lower order, so quickly contracts it, that the flow of blood to the part is impossible, and within a few days after the first injection the tumor begins to slough away, and when exfoliated, the surrounding tissue granulates and fills in the space left by the discarded growth.

The bone, which in this case had been exposed along the upper ridge and external surfaces throughout its left half, was now covered with healthy tissue, and with the exception of a small break in the skin, there was no deformity, and the case was entirely well. The doctor said that this method was equally effective in separating diseased bone from the part that is healthy, but that it required much more time.

Case IV. Mr. M—, aged 28 years; had been in general good health until five months ago, when he consulted his dentist on account of soreness of the gums surrounding the right upper bicuspid and first and second molars. It was found that pyorrhea alveolaris had attacked most of his teeth, and that the upper right bicuspids and first and second molars were very loose, and the right side of the face swollen. These teeth were extracted with but slight improvement, as shortly after their removal a tumor the size of a large olive protruded through the sockets. The case was regarded as a benign tumor of the antrum, and was reserved for this clinic. Examination under cocain anesthesia showed the disease to be sarcoma, and that all the jaw between the lateral incisor and wisdom teeth was involved. Dr. Curtis then operated, drilling and curetting away apparently all the disease in the antrum and maxillary bone, and tightly packed the wound to stanch the hemorrhage. He said he would treat the remaining diseased bone (he believed that all had not been removed) with the fluid such as used in Mr. B's case, and show the case before this society next year. There was no pain from the operation, so complete was the anesthesia by injecting a strong solution of cocain.

Minor Oral Surgery Using Somnoform
Dr. W. J. McKinley
Philadelphia, Pa.

Case I. Young man, age 21, with a badly broken down lower right and left first molar, without any possible chance of saving them. Somnoform was administered, taking twenty-four seconds from the time of induction until we

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had complete anesthesia. Both teeth were extracted and the patient was conscious, feeling well, together with the absence of nausea and pain. Left the chair exactly five minutes after he had taken it.

Case II. Young man, age 27, suffering from pyorrhea alveolaris. The teeth and sockets were in a very unhygienic condition, which, from observation and examination, had existed for quite some time. The patient's family dentist and myself agreed that nothing could be done to save the teeth. He had in his upper jaw six perfect teeth, several roots, and a bridge which extended from the second bicuspid to the cuspid tooth. The gold crown which was attached to the cuspid was broken off, leaving only the root, from the gingival margin to the apex, in the alveolus. Patient was given a 5 c. c. capsule of somnoform as an anesthetic, and all the teeth and roots extracted. The time from administering until the patient was discharged was about ten minutes, most of which time was taken up in checking the hemorrhage, which generally follows the extraction of teeth affected with pyorrhea.

The patient was discharged, having no pain, nausea or fulness in the head, with the instructions to use the following mouth wash.

℞ Acidi Tannici..... gr. xii.
 Tr. Iodi..... f. g. i.
 Sodii Bicarb..... gr. xxx.
 Aquæ Rosæ..... grs. ad. fl. oz. vi.

Case III. A man about 70 years of age, with an impacted upper left third molar, only the mesio-buccal cusp appearing. The disto-buccal and the mesio-lingual cusps were impacted. Cause for the removal was the continual irritation of the mesio-buccal cusp against the inside of the cheek in masticating, which had already formed an ulcer upon the cheek. Somnoform was administered and the tooth extracted. In this case I used a 5 c. c. capsule, thinking that I would need more time than I really did need. The duration of time from the beginning of the anesthetic until the end of the operation was about forty seconds, although the patient was under the anesthetic for about three minutes, and was able to leave the chair in about ten minutes. Owing to his age, he had felt somewhat weak, but with no recollections of pain during the operation.

Case IV. Young man, a foreigner, age about 40 years; was suffering from an apical abscess at the roots of the lower left first molar. Upon examination of the tooth I found it to be very nearly bifurcated and surrounded by a very dense alveolus. Somnoform was given and the tooth was extracted.

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Without the need of removing each root separately, the socket was cutted and washed with an antiseptic solution and packed loosely with iodoform gauze. Before discharging the patient he was directed to use the following mouth wash:

R Tinct. Calendulæ.....i, ss.
 Acidi Carbolici.....gr. xi.
 Aquæ qs. ad. fiat.....viii.

Case U. A young lady, who was recommended by her surgeon to have several imbedded roots extracted. Before this operation a radiograph was taken by Dr. C. M. Peabody, of South Orange, and the films turned over to me,



to show me the position they were in the upper jaw. There were two in the upper left and three in the right, and had it not been that a radiograph had been taken of this case, it would have been quite difficult to locate the roots. Somnoform was administered, 5 c. c. capsule, and the five roots extracted, without any pain or nausea to the patient, who was revived sufficiently to leave the chair in about five minutes.

The illustration is from a radiograph made by **Case VI.** Dr. Geo. E. Pfahler, of the Medico-Chirurgical Hospital. This is the picture made for an infirmary patient, and is introduced to show what an aid the X-ray may be. After seeing the location of this root, the operation was much more easily performed.

Root Preparation, Construction and Mounting of Crown **By Dr. J. G. Lane** **Philadelphia, Pa.**

This clinic comprised the mounting of an all-porcelain crown in accordance with the method described in the *Dental Cosmos* of January, 1908. The root-end is prepared as for the ordinary method of setting such a crown, care being taken to face the root-end back to a point well

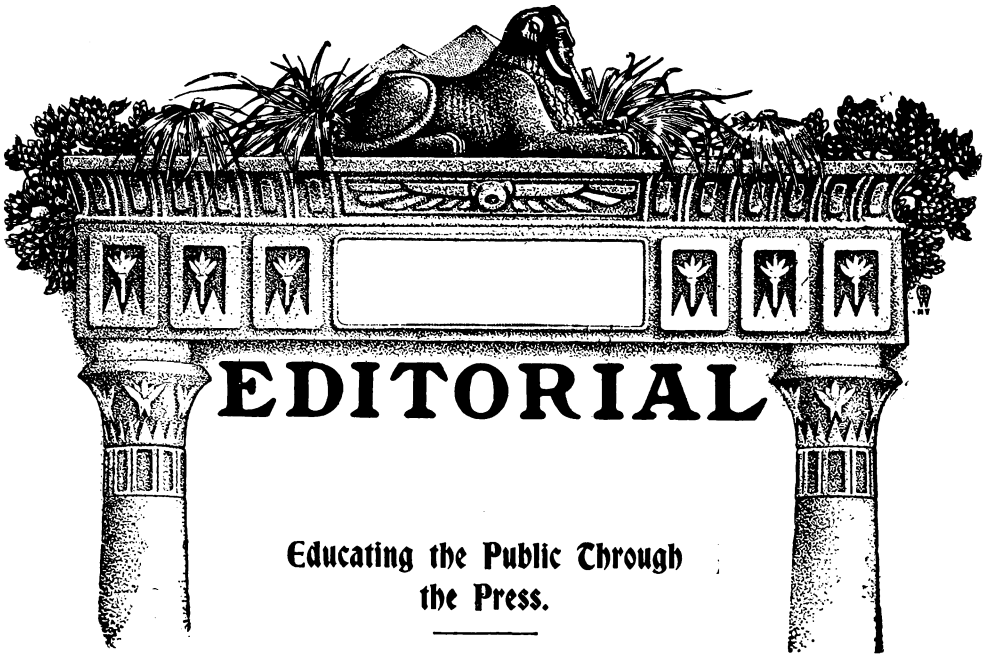
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under the gum margin, but not far enough to injure the pericemental membrane. The finished preparation presents a prominent ridge line extending mesio-distally across the cut end of the root, and the labial and palatal aspects cut much farther back.

The crown is adapted to the root-end by grinding. An accurate adaptation by grinding is not necessary, however, except that there should be contact between the crown and the root-end at extreme labial part of the adaptation. (This one point of close adaptation is made so that should the gum ever recede far enough to expose the line of union, no unseemly exhibit of gold will occur.) Grind out a small semi-circular space on the edge of the palatal side of the crown so as to allow a little more space between this part of the crown and the root-end. This little space allows a heavier part of the wax pattern to come to the surface at that point. The sprue former is inserted in this enlarged portion of the pattern; the whole is thus strengthened and stands far less chance of distortion while being handled and invested. This little irregularity also assists in locating the crown and casting on to the root in cementing.

A round dowel of suitable length is prepared, the root canal having been enlarged to a suitable size, and a small quantity of pink base-plate wax is melted fast to it at a point near its center. The cut-end of the crown is oiled, and the cut-end of the root is wet. Warm the wax and pin, and assemble the whole (crown, wax and dowel) on the root, and press on hard enough to bring the crown into contact with the cut-end of the root at the point mentioned earlier in this description, at the same time bringing it into proper position for articulation and alignment. Chill with water and remove. With suitable instruments cut or melt away the surplus wax that has been squeezed out beyond the cut-edge of the crown. (This surplus wax can be successfully removed *only* while the wax and dowel are assembled on the crown.) Insert the sprue former in the place we have mentioned, and re-assemble on the root end to correct any distortion that may have been caused by trimming or inserting the sprue former. Remove, flask the wax and dowel for casting, and cast pure gold directly on the dowel. The casting thus made will need to be polished over its outer edge; the other surfaces will fit the cut ends of root and crown. Both joints are cemented at one time.





Some fifteen or twenty years ago the undersigned attended a convention of the Southern Dental Association in Atlanta, Ga., at which a good share of the time of one meeting was utilized in discussing the urgent need of "educating the public through the press." It was pointed out that the advertisements, and especially the false statements contained in many advertisements of the so-called advertising dentists, could be counteracted in no other way than by the publication in the daily press of articles which would advise the lay mind of the progress and advantages of dental service of the highest type.

About this time the New York *Herald* was printing in its Sunday editions a column carrying the caption, "What the Doctors Say." The writer, in his youth and enthusiasm believing that all the arguments used in Atlanta were sound, and that an ethical attempt to "educate the public through the press" would be appreciated, approached the *Herald* and arranged to supply a series of articles each Sunday to be entitled "What the Dentists Say." In these articles there was nothing to indicate their origin, and no advertisements of persons, until the operation of "implantation" was described. In this connection Dr. Younger's name was men-



tioned, and immediately the storm broke. A prominent dentist arose at the next local society meeting and demanded that an investigation be made to discover the identity of the writer of the articles, at the same time venturing the belief that the last one in particular was traceable to Dr. Younger himself, or to some one of Dr. Younger's friends. In disgust the undersigned promptly arose, admitted the authorship of the papers, denied that Dr. Younger had either inspired or even knew of the *Herald* article and asked the men present to discuss the question frankly, as to whether the series of articles had advertised dentistry, or just dentists. A number of those present lived in the nearby towns and cities, and these all declared that the articles had attracted business to their offices. There was so much of this sort of testimony that the resolution to investigate was laid on the table, and apparently is there yet.

Was it strange that the writer should have abandoned his well-meant effort to "educate the public through the press?"

However, he did not entirely do so. Within a year of taking the editorial chair of the *ITEMS OF INTEREST* another means of accomplishing this purpose seemed to offer. He was in the position to obtain the cooperation of one of the largest of the newspaper syndicates; a press bureau which prepares articles and sells entire pages of matter to the papers of the country. When papers were published in *ITEMS OF INTEREST*, any part of which might be utilized for public instruction, galley proofs of the same were sent to this press bureau, and a capable writer revamped them for distribution throughout the country. These particular articles were used in a service which supplied about seven hundred papers. But this scheme was abandoned because the Press Association refused to use the matter unless they could also use the names of the writers, and this caused unpleasant comment from confreres jealous of seeing other men's names in print.

**The Hindrance
of Hypocrisy and
Jealousy.**

Naturally, the writer has been keenly interested ever since in every proposition to "educate the public through the press," and it is with sincere regret that he is compelled to confess that, until very lately, the major part of these efforts have been tainted by self-interest. The projectors of many schemes have been quite willing to "advertise dentistry," provided they might at the same time advertise—



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something else. One favorite scheme has been to furnish pamphlets on the care of the teeth, either written by a dentist and carrying the dentist's office address, or published by some dentifrice or tooth-brush concern, the spread of the tooth-brush habit, of course, being—good for business. Another popular plan is the "lecture" scheme, the proposer doing the lecturing and doing it close to his home town. Or, again, "inspection of public school children," the "dental inspector" preferring to confine his "inspections" to his own "school district." Thus, we hear of very few New York dentists inspecting the mouths of children in Boston, or *vice versa*. Indeed, there has been so much that is purely selfish, and therefore wholly unethical, about all the agitation for education of the public, that the better class of men, dentists who need no advertising and want none, have been very shy of all association with any of the plans. These men having nothing to gain, have not unnaturally hesitated to place themselves in positions where they would be sure to be assailed by criticism, and by the back-biting of jealous and small-minded men. For there are men who can not comprehend that there be others sufficiently in love with the cause, even to risk their hypocritical comments.

Thus has grown an attitude, assumed by the dental profession as a whole, which is wrong and born of obsolete isms. We should be more fraternal and more charitable. We should recognize that we have leaders, and we should trust them. If one such leader finds the way open to speak to the public in behalf of dentistry, he should be thanked instead of slandered. But the reverse is true; it is so true that no self-respecting practitioner holding even a moderate position will consent to the use of his name in print, even though he might have a valuable message upon dentistry which he might transmit to the people.

No such condition exists in the medical world. The physician and surgeon are surely quite as ethical as the dentist; probably if the truth were known, much more so. Yet, it is of daily occurrence to see these men's names in print. Every great operation is fully reported; every new discovery heralded, every progress that makes for the betterment of public health is promptly recorded in the newspapers, and the larger achievements are sent by Associated Press telegraph to the four corners of the world. Yet, surely, medicine has the respect of the public?



**An Example
in Ethical Press
Work.**

After studying this problem for many years, the writer recently took advantage of what seemed to him a great opportunity to advertise to the public something of the progress of dentistry. He had the good fortune to render professional services to a member of the family of the editor of the magazine section of the *New York American*, and easily interested him in the campaign of promulgating to the people the importance of the care of their teeth, in its relation to and effects upon the general health. It should be remembered that the Hearst newspapers circulate in New York, Boston, Chicago, San Francisco and Los Angeles, with an aggregate actual circulation of at least 3,000,000! The Sunday supplement reaches many more. A single paper supplies a household, and the magazine or pictorial section is usually the first read. The dental profession, therefore, should be greatly indebted to Mr. Goddard, who up to date has given us a whole page in three issues (Sunday, November 28, Sunday, December 5, and Sunday, December 19). The first story dealt with the importance of the care of the teeth of children, and explained the need of school inspection and the establishment of public clinics. The second related to the importance to caring for the temporary teeth, and described the causes and possible treatment of malocclusion. The third deals with the cleansing and saving of the teeth through prophylactic measures.

These articles have been the most remarkable ever printed in any newspaper. They were compiled and written entirely by a staff writer, so that the language is the language of the people; it is the language in which the newspaper usually talks to its readers, and consequently it reaches their comprehension much better than any articles written by dentists, who would unwittingly use technical terms without defining them. There have been a few errors and slight misstatements, of course, but these have been so few and so unimportant as to be inconsequential, except in establishing the fact that it is a message from a great newspaper to the great American public, about a great profession, and not a message from a great advertising dentist about the great things that he does in his own office.

Thus we offer those that are interested in educating the public through the press a fine object lesson in how to do it. The method was



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as follows: Mr. Goddard sent to the undersigned one of his best staff writers. The situation was explained to him, and he was directed to sources of information in regard to the movement for public clinics. Articles in the magazines were indicated, and he was placed in communication with the Oral Hygiene Councils of the National Dental Association, and of Massachusetts, New York, and similar local committees in New York City, Brooklyn, Cleveland, and cities in New Jersey. It was explained to the gentleman that the men connected with these Councils and Oral Hygiene Committees had been especially appointed by dental associations and societies to further this great movement, and that they were consequently authorized to speak in print, should they deem it wise to do so. At the same time it was pointed out that in other articles which might be written it would be best to obtain information and material from men so high in their professions that they would not consent to the use of their names. It should be remembered that the newspaper man naturally wishes to quote high authority for that which he publishes and it is asking a great deal to request the papers to aid us in this work, and yet deny them the use of our names. However, it was pointed out that to say that their authorities stood so high that their names could not be used, might serve every purpose.

The writer of the articles in the *American* has certainly been very scrupulous in this matter. He has mentioned names of men connected with the Oral Hygiene Councils, but this was permissible. But in the second and third article no names are mentioned except where he has seen fit to quote from printed uncopyrighted articles, and this he has done of his own selection, and without suggestion from any one.

The article on "Prophylaxis," in the December 19th issue of the *American*, is a peculiarly good example of the effort which has been made to keep within the limits of the most bigotted demands of ethics. The article, as a whole, is mainly the result of a three-hour interview with a dentist who is a high authority, but whose identity, and even the fact that there was an interview, is completely concealed from the readers of the paper. In the same issue of the *American*, separated from the dental article by only a few pages, is another full-page story dealing with a medical topic, the new anesthetic, "stovaine." On this page we find a portrait of Dr. Jonnesco, a picture of "Dr. Jonnesco filling the hypo-



dermic syringe," and a picture of "Dr. Jonnesco injecting stovaine." Turning back to the Dental Prophylaxis article, we find two pictures demonstrating the proper way of using a tooth-brush. One shows the hands of the gentleman interviewed holding a set of false teeth, and also holding the tooth-brush in proper position. The second picture shows the hands and brush properly held for cleansing the lingual surface of the lower teeth. In neither instance is the face disclosed. This indicates that it is possible to "advertise dentistry without advertising the dentist."

But this is the New Year, the time for new resolutions. Therefore, while wishing a "Happy New Year" to the whole dental world, let us resolve to recognize our leaders and trust them to speak for us in the great campaign of "educating the public through the press," feeling assured that they will advertise dentistry, and not themselves. And let us extend thanks to Mr. Goddard and the Hearst newspapers for teaching us how this may be done.

R. OTTOLENGUI.

The Truman Dinner.

On the 22d of January, 1910, a complimentary dinner will be given to Dr. James Truman, D.D.S., LL.D., at the Waldorf-Astoria Hotel, New York, by his professional friends, as an expression of their appreciation not only of his personal characteristics and worth, but of his many years of self-sacrificing labor, as teacher, author, editor, and investigator, in the advancement of dental science and art.

It is the desire of the Committee having this banquet in charge that all of Dr. Truman's friends throughout the world shall utilize this opportunity to express their appreciation of Dr. Truman either by attending the banquet or by communicating their good wishes and congratulations to him on that occasion. Those who desire to attend the banquet can communicate with Dr. S. G. Perry, treasurer of the Committee, 130 West Fifty-seventh Street, New York, and those who can not attend and who desire to send letters or telegrams to be delivered to Dr. Truman may forward these in case of the Editor of the *Dental Cosmos*, corresponding secretary of the Banquet Committee.



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As it is impossible for the Committee to individually reach all those who will wish to take part in this celebration, and as it is desired that none shall fail to receive notice of it, the Committee has decided to give notice in this manner through the various dental journals in the hope of reaching everyone who may in any way desire to participate.

EDWARD C. KIRK,

Corresponding Secretary.

Class of 1885, Dental Department, University of Pennsylvania.

Saturday evening, January 22, a complimentary dinner will be given to Professor James Truman at the Waldorf-Astoria, New York. All members of the Class of '85 who can possibly attend should do so, as this is the twenty-fifth year of our graduation under our beloved professor and the Secretary of the faculty. Those who expect to attend send check to Dr. S. G. Perry, Treasurer, 130 West 57th Street, New York City, and send me a postal, that I may arrange to have our class seated together.

JOHN A. SCHMIDT.

Member Executive Committee, Truman Dinner.

1191 Dean Street, Brooklyn, N. Y.

Celebration in Honor of Dr. G. U. Black.

The Chicago Odontographic Society have arranged for a great meeting, manufacturers' exhibit, clinic and banquet, to be held on Friday and Saturday, January 28th and 29th, 1910, and a cordial invitation is hereby extended to all ethical practitioners to be present on these occasions.

Exhibitors' clinic, January 28th, 1910, all day, at the Chicago College of Dental Surgery, corner Wood and Harrison Streets.

Meeting, January 28th, 1910, at 8 P. M., in Handel Hall, 40 East Randolph Street.

Essayist, C. N. Johnson, M.A., L.D.S., D.D.S. Subject, "The Selection of Filling Material and Methods of Inserting, When Temporary Work Need Not Be Considered."

The discussion will be opened by prominent men from all sections of the country.

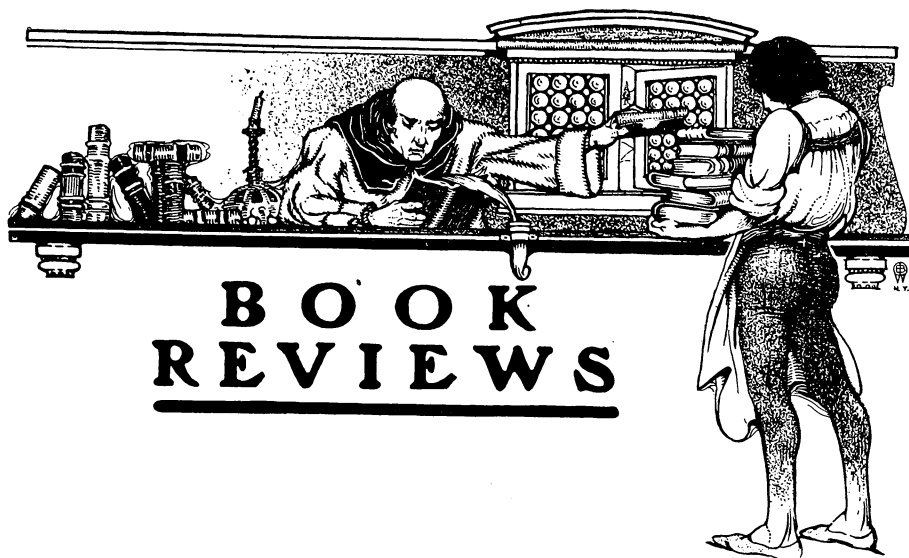


Clinics, Saturday, January 29th, 1910, all day, at the Chicago College of Dental Surgery, by operators of national reputation.

Banquet. As a fitting climax to a great meeting, we will all unite in a "testimonial banquet to a great man, whom we all love to honor, Dr. G. V. Black." The banquet will be held in the Gold Room of the Congress Hotel, on Saturday evening, January 29, 1910, at 7 o'clock. Information regarding meeting or banquet will be furnished by any officer of the society or by addressing the Clinic Committee, H. N. Orr, A. F. James, J. E. Schaefer, C. M. Cahill. GEO. N. WEST, Chairman.

100 State Street, Chicago, Ill.





Dental Materia Medica and Therapeutics.

A Text-book for Students and Practitioners. By HERMAN PRINZ, M.D., D.D.S.
Illustrated. St. Louis: The C. V. Mosby Medical Book and Publishing Co., 1909.

No work on dental materia medica and therapeutics which we have seen deals with this rather neglected subject in a more comprehensive manner than does this volume.

The author says in his preface: "The progress of dental pharmacotherapeutics has not kept pace with the remarkable advance made in the technical branches of dentistry."

The truth of this statement is only too evident. The dental schools give the subject scant consideration, students hurrying over it as a side issue, giving it barely enough attention to enable them to pass a rudimentary examination, the older members of the profession also being seemingly much more interested in technical subjects.

While it is true that dental as well as general surgery concerns itself principally with mechanics, it is also true that the public would suffer far less from poorly constructed dental substitutes than from the mal-administration of drugs, or other results of lack of knowledge in pharmacotherapeutics.

We would hesitate to venture an opinion as to how many of the operators who daily use cocain are thoroughly acquainted with its physiological action and toxic effects and symptoms.

That more literature is needed along these lines is evident.



BOOK REVIEWS

The fact that the subject has been somewhat neglected by both young and old practitioners, however, makes it necessary that such a work should be somewhat elementary and with such literary construction as to be easily understood by the average reader.

Dr. Prinz's work seems to meet these requirements.

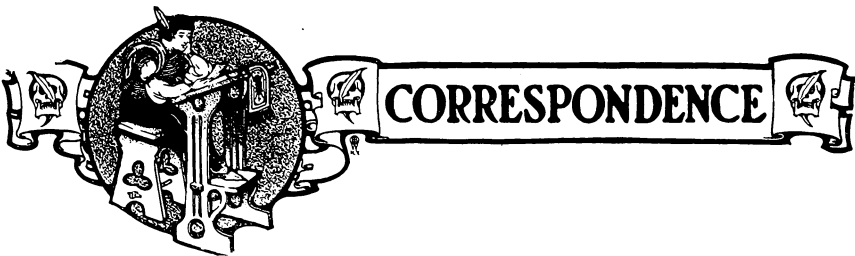
Perhaps the chapters of most striking value are those on "Prescription Writing and Local Anesthesia," the latter covering about seventy pages and being as exhaustive a treatise on the subject as we have ever seen.

The technique of hypodermatic injection, as required in tooth extraction, is not only very minutely described, but quite well illustrated, and here, as in other portions of the book, the author's simplicity of diction renders the matter very readable.

Nothing new can be said on prescription writing, but the fundamental principles, a knowledge of which is as necessary to the dental as to the medical prescriber, are, we think, brought out in this volume in a more intelligible manner than in any previous works on the subject.

The dental profession needs a clear, concise, comprehensive work on dental materia medica and therapeutics, brought up to date in accordance with advanced knowledge and methods, and so written that it will appeal to the interest of the average student and practitioner, and we believe that Dr. Prinz has made a very commendable effort to supply this need.

E. N. K.



Reorganization of the National Dental Association.

Dear Doctor Ottolengui:

Since my first letter to you (published in *ITEMS OF INTEREST*, January, 1909), in regard to the reorganization of National Dental Association, there has been a meeting of this Association at Birmingham, Ala., and at one of the meetings of the Council of the N. D. A. at this time,

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there was read the report of the Committee on new Constitution. This committee had been appointed because of the agitation of this question of reorganization at the meeting of the N. D. A. in Boston in 1908. The proposed new Constitution was read in part before the Council and some few interested spectators by Dr. J. D. Patterson, the chairman of the Committee on Constitution. After the reading, which was not a reading of the new Constitution in full, but only of the changes proposed, a motion was made by Dr. Hetrick to accept this report and to take steps to adopt the Constitution as reported by this Committee. This was seconded and was about to pass, I believe, when there was objection among the spectators, and in deference to my objection Dr. Hetrick withdrew his motion and moved that this new Constitution lay over until the next meeting in Denver.

Since then this new Constitution, which, it is evident, meets with the approval of the present Council of the N. D. A., has been printed and circulated so that we now have before us, besides the Constitution which you drafted and presented at Boston to the N. D. A. for use by its committee, a redraft of the Constitution of that Association, this Constitution offered at Birmingham.

This Constitution, which you presented has been well discussed through the columns of your journal by a pretty large number of the members of the N. D. A. I think this discussion was a fair discussion of the *principles* involved until we reached the last number of the ITEMS OF INTEREST that was to be published before the meeting at Birmingham, and then and there we had the first letter from a member of the Council of the N. D. A., this letter descending, for the first time in this discussion, to personalities.

This is one of the strange things about this discussion: the Council of the N. D. A. has seemed to take this movement for a reorganization of the N. D. A., not for what it is, but rather as an attack on the Council, not to say on them personally.

As to the Constitution drafted by you, it seems hardly necessary to go over that, for, as I have said, this has been done quite fully in the past year, and I have so little to add to what I wrote you in my former letter that I hardly think it advisable to write you further on that subject. I think Dr. Arthur D. Black in his letter (ITEMS OF INTEREST, December, 1908) reached the high-water mark in this correspondence. Everybody must know by this time that your draft followed the Constitution of the American Medical Society as closely as it is possible for us to follow, and we will leave it there.

The question now is, what of this Constitution reported by the Committee on Constitution to the N. D. A. Council at Birmingham, which



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is now on the table, and which is to come up for action at Denver next summer? In reading this Constitution, my first thought is this: If we are to have a National Association, why divide the country into sections, "the East," "the South" and "the West." Later on we find that in this Constitution this is done for the following reason: It is proposed to have caucuses at the annual meeting of the National Dental Association in order that members of the House of Delegates shall be selected. At these three respective caucuses five delegates shall be selected from each of the three sections—East, South, West. Could we devise a more unrepresentative way of selecting this House of Delegates? I grant you that had this been the method of procedure at Birmingham, the caucuses of "the South" would have been quite representative. But any one who was there can tell you how far from representative would have been the caucuses of "the East" and of "the West," and, in the nature of things, must this not be so each year? Representative caucuses of the section in which the annual meeting is held would always be unrepresentative, so far as the *other two* sections are concerned.

But all this is wide of the mark, because what the National Dental Association principally needs, I think, is this: That it become representative of the nation and that it develop relations with the various State societies. It seems to me that this can only be done in one way, and that is to have a House of Delegates to shape the policies of the N. D. A. A House that shall consist of *delegates chosen by their respective State societies*. Each State society to have at least one delegate, and more according to their membership. Then you will have government and representation and will, I believe, have a very large majority of the State societies enrolled as component parts of such a National Association. I doubt if many of the societies will come in under the plan proposed by the committee of the National *when they understand how they are expected to be governed, but are not to be given direct representation*. The Revolutionary War was fought on that point, some of us remember.

When you read this new Constitution as reported by the Committee of the N. D. A., and strike out all that conflicts with the above ideas, you must strike out nearly all the new matter, except that which refers to a journal of the Association. I shall not discuss this, because that is the cart before the horse. Given a truly representative National Association, and the matter of a journal will take care of itself.

There is only one other point, and that is the question of dues. Dr. J. P. Root advocates very small dues, one dollar per year, I think. I do not agree with this. The National needs all the money it can get, and we should pay into it all we can afford. Why? Let me illustrate by an incident that occurred at a council meeting at Birmingham. The

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question of the Miller memorial was before the Council. No one could question the desire and the propriety of the National Dental Association of *America*, contributing to this fund, to *our* Miller. The question was, "How much shall the Council recommend the Association to give?" It was readily admitted that less than \$500 was undignified from this *National* Association, and it was about to be so voted when the chairman, I think, asked where they were to get this paltry \$500. It seemed the treasury could not furnish it. Does that not show one way in which a National Association may need money, Dr. Root? And does it not show how pitifully weak is our present National Association, when a little donation of \$500 to a very worthy object (one to which Europe has given over \$10,000) stumps it?

And how about the research work there is to be done? The educational work? The charity work? Especially among the school children. Don't talk about dues of one dollar a year, journal included. There is need of all the money we can afford to give.

Fraternally yours,

Portland, Me.

H. A. KELLEY.

Dr. R. Ottolengui:

My Dear Doctor:—Your analysis of the proposed changes in the Constitution of the National Dental Association, and the deductions drawn therefrom, are points well taken and deserve to be given careful consideration before any final decision is reached.

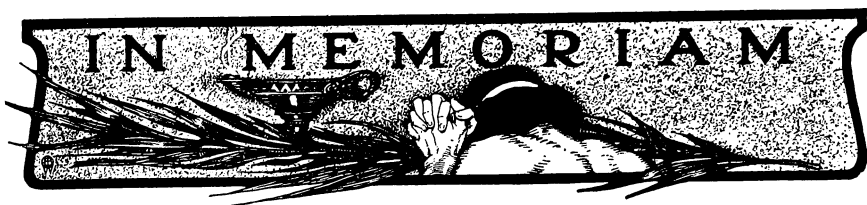
The proposed changes seem like adding another patch to an old shoe that has been half-soled, heeled and revamped until it has about passed its period of usefulness. The new patch won't alter conditions much, so long as the same old foot is intrenched inside to guide its destinies.

With thirty-five thousand practicing dentists in the United States, there must be some reason why only about six hundred of them are members of the National Association.

Yours very truly,

FREDERICK CROSBY BRUSH.

New York City, N. Y.



Dr. Joseph Doanahey Moody.

Died after three-days' illness, of heart failure, at Los Angeles, Cal., November 24th, 1909.

Dr. Joseph Doanahey Moody, aged 68 years and 10 days.

Born in Ashland, Ohio, 1841.

In 1861 enlisted as a private in Company H, 42d Ohio Infantry, Col. James A. Garfield commanding.

Served three years and two months without wounds or serious illness. Was secretary to Col. Garfield till the latter was promoted. Dr. Moody had a treasured letter from Gen. Garfield, written from the battlefield of Shiloh, which has added this postscript: "I am very sorry you are not still my clerk."

Dr. Moody was in detached service in the Brigade Quartermaster's department for nearly a year, and was then promoted to second lieutenant and assigned to Company I. At the beginning of the Vicksburg campaign he was placed in charge of the ambulance corps of the Ninth Division, Gen. Osterhaus, commanding.

Returning to his regiment in the spring of 1864, he was appointed first lieutenant and later adjutant.

Soon after his discharge from the army he began the study of dentistry, as the custom then was in the office of a preceptor. Practiced first in Upper Sandusky, Ohio. Later in Mendota, Illinois, where he remained for twenty years. Took a course in the Chicago College of Dental Surgery and graduated in March, 1885. Removed to Los Angeles, Cal., in February, 1893, where he was engaged in active practice till within a few days of his decease.

While living in Illinois, Dr. Moody was a valued member of the Illinois State Dental Society, also the Central Illinois and Chicago Societies.

At Mendota he was for several years president of the City Board of Education.

After his removal to California he soon became identified with the Los Angeles and Southern California Associations, and in due time be-

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came president of each. He also engaged in educational work, being for several years and up to the time of his death Professor of Hygiene and Ethics in the College of Dentistry, University of Southern California.

As a dentist Dr. Moody was industrious, painstaking and skilful in relation with the members of his profession, courteous, kind and ethical in the highest degree. He was one who illustrated in his own life the principles he advocated. He plead with great earnestness that a dentist should be broadly educated, a fully developed, all-round man.

He read widely and thought deeply upon current questions. He was an active member of the Southern California Historical Society, also of the Southern California Academy of Sciences; was much interested in archeology, and made one of his chief diversions the field study of botany.

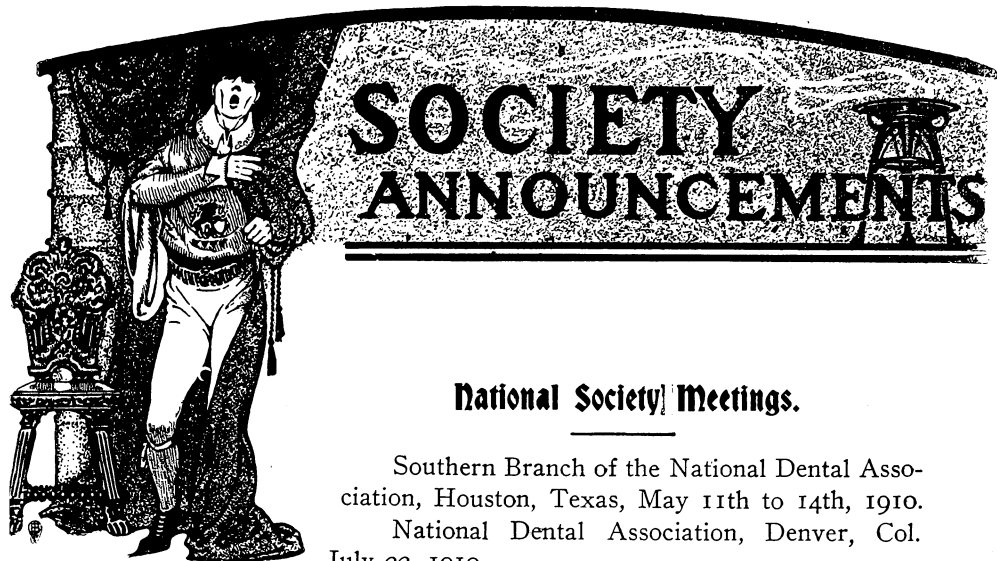
Dr. Moody was a deeply religious man, a very thorough Bible student, a sincere Christian. From the age of 17 to the end of life he was a faithful member of the Presbyterian Church—for many years an elder. He was particularly identified with Sunday-school work, both in Illinois and California, for several years superintendent of Sunday-school Normal work for Southern California. In the Southern California Dental Association he was often spoken of as "our chaplain," always ready to offer the opening prayer in absence of a clergyman.

The respect in which Dr. Moody was held by his neighbors, patrons and professional brethren was fully attested by the large attendance at his funeral, which was held in the Hyde Park Presbyterian Church of Los Angeles, Friday, November 26th.

His widow, Dr. Kate Cameron Moody, whom he married in Jessup, Iowa, 1869, survives him.

Their only child, a daughter, died at the age of five years, in Mendota, Illinois, to which place the remains of the father were conveyed for burial.





National Society Meetings.

Southern Branch of the National Dental Association, Houston, Texas, May 11th to 14th, 1910.

National Dental Association, Denver, Col. July 22, 1910.

National Association Dental Examiners, Denver, Colo., Aug. 1, 1910.

American Society of Orthodontists, Denver, Col., July 15-17, 1910.

State Society Meetings.

Alabama Dental Association, Mobile, Ala., May 10, 1910.

Connecticut State Dental Association, New Haven, Conn., April 19, 20, 1910.

Illinois State Dental Society, Springfield, Ill., May 10, 11, 12, 13, 1910.

Indiana State Dental Association, Indianapolis, Ind., June 29, 30, July 1, 1910.

Iowa State Dental Society, Des Moines, Ia., May 3, 4, 5, 1910.

Maine Dental Society, Rangeley, Me., June 22, 23, 24, 1910.

Massachusetts Dental Society, Springfield, Mass., June 8, 9, 10, 1910.

Mississippi Dental Association, Jackson, Miss., May 24, 25, 26, 1910.

Missouri State Dental Association, St. Louis, Mo., May 24-27, 1910.

Montana State Dental Society, Great Falls, Mont., May 6, 7, 1910.

Nebraska State Dental Society, Omaha, Neb., May 17, 18, 19, 1910.

New York State Dental Society, Albany, N. Y., May 5, 6, 7, 1910.

Pennsylvania State Dental Society, Harrisburg, June 28, 29, 30, 1910.

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Rhode Island Dental Society, Providence, R. I., January 11, 1910.

Texas State Dental Association, Houston, Texas, May 10, 1910.

Vermont and New Hampshire Dental Societies, Rutland, Vt., May 17, 18, 19, 20, 1910.

Virginia State Dental Association, Staunton, Va., July 20, 21, 22, 1910.

Wisconsin State Dental Society, Ashland, Wis., July 12, 13, 14, 1910.

Orthodontia Society Formed in Holland.

At a meeting held in Amsterdam, November, 1909, there was organized a society known as Nederlandsche Vereeniging voor Tandheelkundige Orthopaedic (The National Society of Dental Orthopedics). The following officers were elected: L. Frank, Rotterdam, President; T. Y. E. de Vries, Amsterdam, Secretary; P. Y. Y. Corbergh, Utrecht, Treasurer.

T. Y. E. DE VRIES, Secretary.

The Texas State Dental Society.

The annual meeting of the Texas State Dental Association will be held at Houston, Texas, May 10, 1910. On May 11, 12, and 13th the association will meet conjointly with the Southern Branch of the National Dental Association at the same place.

J. G. FIFE, Secretary.

Dallas, Texas.

South Dakota State Board of Dental Examiners.

The South Dakota State Board of Dental Examiners will hold its next regular meeting at Sioux Falls, S. D., January 11, 1910, at 1:30 P.M., and continue three days. All candidates are required to take both practical and theoretical examination. The fee of Twenty-five dollars (\$25.00), together with application, must positively be in the hands of the secretary not later than January 2nd, otherwise the applicant will not be entitled to take the examination.

G. W. COLLINS.

Vermillion S. D.



Massachusetts Dental Society.

The Massachusetts Dental Society will hold its forty-sixth annual meeting at Springfield, June 8, 9, 10, 1910. An attractive program is being arranged.

Ethical practitioners of dentistry residing in the State of Massachusetts who may desire to join the Society are requested to send their name and address to

CHARLES W. RODGERS, D.M.D., Secretary.

Mississippi Dental Association.

The seventeenth annual session of the Mississippi Dental Association will be held in the Senate Chamber of the State capitol, Jackson, on Tuesday, May 24th, continuing through the 25th and 26th. Will have papers and clinics by men of National reputation.

L. B. PRICE, Secretary

Corinth, Miss.

Iowa State Dental Society.

The forty-eighth annual meeting of the Iowa State Dental Society will be held at Des Moines, May 3, 4, and 5, 1910. Besides an especially strong program, plans are being made for a large Dental Manufacturers' Exhibit. Display space free of charge.

W. G. CRANDALL, Secretary.

Spencer, Iowa.

Iowa State Board of Dental Examiners.

The Iowa State Board will hold a meeting for the examination of candidates for license to practice dentistry in Iowa beginning Jan. 10, 1910, at 9:00 A.M., in Des Moines.

For blanks and other information write the secretary,

E. D. BROWER.

LaMars, Iowa.



The G. V. Black Dental Club Clinic.

The Annual Clinic of the G. V. Black Dental Club will be held in the old Capitol Building in St. Paul, on February 24th and 25th, 1910.

At this writing there is every indication that this will be the largest attended and most interesting of all the clinics which the members have held.

Such well-known men as Drs. Black, Johnson, Friesell, Chappel, Barnes and Woodbury will take part in the literary program. Operations will be made by Drs. Searl, James, Gallagher, Carlson, James, Yerke, Crandall, Fawcett, Moyer, Robinson, Clack, Beemer, Richardson, Robinson, Noyes, Black, Woodbury, Finn, Wallace, Moyer, Wedelstaedt and Cooke. There will be operations made with gold and amalgam. Drs. Beemer and Richardson will make and place cast gold inlays.

The table clinics will be of unusual interest. Dr. J. B. Ridout will demonstrate on both days of the clinic. Dr. C. P. Peterson will cast aluminum plates on both days.

Dr. F. B. Kremer will once more assist the members of the club with some things which will be most worthy of attention. Dr. C. L. Topliff will be present prepared to extract abnormally situated lower third molars.

Dr. E. J. Hart, of Madison, Wis.; Dr. M. E. Vance, of Lincoln, Neb.; Dr. G. F. Hauser, of LaCrosse, Wis.; Dr. W. W. Wold, of Jackson, Minn.; Dr. G. J. Couvrette, of Grand Folks, N. D.; Dr. B. F. Lockwood, of Yankton, S. D.; will hold table demonstrations which will be of value to all.

It seems only necessary to announce the fact that Dr. C. N. Johnson will hold a table clinic to arouse the interest of his multitude of friends in what he will display.

The number of supply houses which have reserved space is sufficient guarantee that everything which is new and of importance will be on exhibition.

The profession generally is invited to attend.

For further information apply to

R. B. WILSON, Secretary.

Am. Nat. Bank Bldg., St. Paul, Minn.